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EMBELLISHMENTS.

January.—A Daughter of the Pacific. Phototype Print from a Negative by F. G. SCHUMACHER, Los Angeles, Cal. A Model Display. Half-tone Engraving of P. A. of A. Prize Studies arranged by J. ED. RÖSCH, St. Louis, Mo. "Gloria in Excelsis." Half-tone Engraving from a Photograph by LOUIS F. JANSEN, Buffalo, N. Y.

February.—Velox Print from a Negative by R. W. HARRISON, Selma, Ala. Portrait of W. Irving Adams, Esq. Phototype Print. A Breastplate of Gems. Half-tone Engraving from Photographs by REUTLINGER, SARONY, KLARY, LUTZE, and RANDALL.

March.—From the Heights of Lugano. A Photograph in Colors from Nature, by R. D. GRAY, New York. In the Harem. Phototype Print from a Negative by LOUIS F. JANSEN, Buffalo, N. Y. A Wedding Group. Half-tone Engraving from a Flash-light Photograph, by J. ED. RÖSCH, St. Louis. "Hard Times, Cap'n." Half-tone Engraving from a Photograph by E. H. BERLIN, Blairsville, Pa.

April.—The Return from the Pyramids. Gravure Print from a Photograph Loaned by W. D. HIMMELREICH, ESQ., Lewisburg, Pa. October. Phototype Print from a Negative by J. W. ALLISON, Philadelphia. Sixteen Well-springs of Pleasure. Half-tone Engraving from Photographs by S. L. STEIN, Chicago. Weighing the Baby. Matt Velox Prints from a Negative by F. M. SOMERS, Memphis. Resurrection. Half-tone Engraving from a Photograph by LOUIS F. JANSEN, Buffalo, N. Y.

May.—Evening on the Lagune. Gravure Print from a Negative by H. KUHN. Costume Portrait. Half-tone Engraving from a Photograph by M. RUF. View of Philae on the Nile. Velox Print from a Negative by EDWARD L. WILSON, New York. Mosaics. Half-tone Engraving from Photographs by NADAR, Paris.

June.—"Dolce Far Niente." Phototype Print from a Negative by LOUIS F. JANSEN, Buffalo, N. Y. Alice Bruce Stark. Half-tone Engraving from a Negative by F. M. SOMERS, Memphis. Gems for the Convention. Engraved from Photographs by A. N. CAMP, Jamestown. Portrait of C. L. Pattison, Esq.

July.—Photographic Studies by FALK. Prints by the Process of the AUTOMATIC PHOTOGRAPH CO., of New York. Poses de Fantasie. From Negatives by NADAR, Paris. Children of the Stage. From Negatives by FALK, New York. Portrait Studies by W. N. HOLLINGER, New York.

August.—A Celoron Prize Picture. Half-tone Engraving from a Negative by A. N. CAMP, Jamestown, N. Y. Prize Studies of Children. Engraved from Photographs by S. L. STEIN, Milwaukee. A Portrait Study by Em. Mai Co., Budapesth. A Model Group. From a Negative by CHARLES W. HEARN, Boston.

September.—Variety of Position. Half-tone Engraving from Photographs by J. D. BRINKLEY, Oxford, N. C. Watching the Game. From a Photograph by SPENCER JUDD, Sewanee, Tenn. An Egyptian Mother and Child. The Mummified Hand of an Egyptian Princess. Radiograph by JOHN CARBUTT, Wayne Junction, Pa.

October.—The Culprit. Half-tone Engraving from a Negative by A. P. MILLER, Tunkhannock, Pa. In Mexico. Engraved from Photographs by WINFIELD SCOTT, Trinidad, Mexico. A Daring Feat. Negative by OTTO VON BARGEN, San Francisco, Cal. A Dozen Prizes. Engraved from Negatives by MCCRARY & BRANSON, Knoxville, Tenn.

November.—The Village Schoolmaster. Velox Print from a Negative by W. G. C. KIMBALL, Concord, N. H. A Variety of Studies. Half-tone Engravings from Photographs by W. M. MORRISON, B. J. FALK, R. H. FURMAN, S. L. STEIN, J. F. RYDER, and MCCRARY & BRANSON.

December.—A Domestic Group. Velox Print from a Negative by JAMES F. RYDER, Cleveland, O. A Light and Shade Study. From a Painting by J. JACQUET. Portrait Studies by GEORGE B. SPERRY. Half-tone Engraving. Corner of 5th Avenue and 14th Street, New York. Engraved from a Photograph by C. C. LANGILL, New York.

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ON THE GROUND-GLASS.

THE conductor of *The Ground-Glass* announces that he is now in good trim to enter into the earnest work of his thirty-third year of focussing for the photographic craft. One would think that he must have lost his sense of sharpness by now, but it seems that this is not the case. There are reasons for this. One is, that he began early in life, and another, that his powers have been kept fresh and alert by the charming compensations which come from being an enthusiastic disciple of Daguerre.

Here, then, goes the rack and pinion again, fellow-craft. Now forward—now backward to gather help from the experiences of the past. Now to catch all that is promised by the present. Ever for the success of the art we honor. Sometimes a tiny twirl from thumb and finger, or a gentle motion of the wrist alone, will make a mighty difference. Look sharply, then, for 1896, and we will continue to apprise you of the best things presented. A prosperous 1896 to you, and much enthusiasm and enjoyment in the work thereof. Now is the time to—pardon!

Don't Roll. *The Ground-Glass* begs to announce that it is hard to focus upon anything while it rolls. The conductor hereof finds anything that is rolled a great trial to him. And why, indeed, should anybody roll anything? If you have manuscript or unmounted photographs to send this way or any other way, pray use some of your discarded backboard or card mounts to help make up your parcels flat, and DON'T ROLL. Manuscript which comes to this office rolled is often laid aside for weeks unopened, because of the fear that the editorial jackknife will split some of the sheets in the effort to get the parcel open.

As to the abomination of rolled photographs, the case may be pleaded, and the appeal for mercy made, in this way: A short time ago a fat roll of photographs came to the office of *The Ground-Glass* from a Western city. It is true that the talented artist was cautious enough to precede the parcel by a letter wherein he stated that the prints were made upon "Velox" paper; and yet we were caught. After pulling and tearing away at the wrapper until it was removed, piecemeal, ruining in the process only three of the best prints, we began to examine our prize. Alas! released from pressure, the prints leaped from our grasp one after the

other, like affrighted frogs, to the floor. Patiently gathering them together again, we carefully bent them backward until, the curl having been transposed to corrugation, they were tolerably flat. Our enjoyment of them, however, was gone for that hour, for our patience had been overtaxed; so we laid them aside and placed a parcel of heavily printed photographs upon them to keep them flat for the time being. What a rest we had then and how we enjoyed inspecting some lantern slides which had just been colored for us by Mr. A. G. Marshall. Just then a visitor came in; he prodded us with the usual inquiry, "Anything new?" We thought of the last arrivals—the "Velox" prints and the lantern slides, and proceeded to exhibit them to our visitor in the order named. (Alas! that the order had not been reversed!) As soon as the "Velox" prints (how splendid they are) were released from their heavy weight they sprang from their prison, leaped into the air, and one after the other *rolled* upon the floor. On their way they carried some of our precious colored slides with them, and—the slides cost us fully a dollar each.

This is a long story, and tells of but one experience. Nevertheless, it is a necessary tale, and has a purpose and a moral. Moral: If you receive anything rolled, burn it up. If you send away anything rolled, and value it, don't forget to send stamps for return postage. The purpose is apparent.

Let no one become inconsolable over this faultfinding. *The Ground-Glass* confesses to focussing some indiscretions and oversights on the part of its conductor also. Here is recorded an instance: Some time ago a half-tone engraving of an honored veteran photographer appeared in this MAGAZINE among those of "Photographers, Old and New." By some hook or crook of our wondrous art, not yet investigated by us, the likeness of our friend was reversed. This caused him to write thus: "You ask me 'How I like the MAGAZINE?' You might well know that, for it was my first love; but I *don't* like that sifted and hand-screened half-tint portrait of me which the engraver passed upon you. It is a left-handed mockery. My hair is parted on the wrong side; my vest is buttoned at the left side, while it is my habit (I always go double-breasted) to button it at the right; my collar button is on the reverse side, and, confound it, *I* am on the wrong side. My very inwards feel all wrong-sided. I think photography has gone a step backward. Such turning over is all very well for a tintype, but it is away off for modern, up-to-date photography." It is evident that the humor of our old friend is neither exhausted nor rusty, although his hair has grown white in the service.

The more we photographers grow toward the thought that we are artists the more we are disposed to consider what artist-painters and sculptors tell about us and our work: and their productions interest us more for the suggestions they give us. *The Ground-Glass* believes, therefore, that the year cannot be started more advantageously than by submitting for serious consideration some thoughts focussed from the editorial scrap-book. They follow:

Some weeks ago a reporter of the *Daily Chronicle* interviewed Mr. Gleeson White, the noted artist, when, among other things, the following conversation ensued:

"What are the causes, then, to which you attribute the almost phenomenal rise of the pictured world?"

"General movements have mostly a variety of causes, and I fancy that is the case here. But as the initial basis I place first and foremost the camera with its strik-

ing development of the art of photography. Photography has shown the way, and the public have been quick to discover what the picture can really be and do."

"Well, and the other reasons crowding upon this one?"

"Take the increase in the facilities for the production of illustrations in our public literature. That is a natural sequel to the progress in photography, and an important matter. Sketches or photographs can now be reproduced so much more rapidly and at so much less expense. Or go a step into the abstract, and consider the appreciation of illustration *per se* which must grow in men's minds as a result of the greater freedom with which our national and private collections of pictures are put in reproduction before the eyes of those who cannot visit them." . . .

"I will add that I think the path of the artist is being prepared for him by photography. The photograph has educated the people so far; it is for the artist to do the rest. You know the old-fashioned style of painting, where a man was shown in some classic and impossible attitude—three of his fingers resting on a velvet tablecloth, a great scroll of parchment in his other hand, and so on. If we were to see a painting done in that style now, we should think it ridiculous, because the photograph gives us the same person amid his natural surroundings, and we instinctively look for them.

"So that photography has provided a basis on which art, as represented by the artist, may reach to higher and higher things."

Conversations like this and the dispute about the "doom of wood-engraving," process-work, etc., remind *The Ground-Glass* of the early years of its work, when chromolithography, it was asserted, was "going to kill photography and cheapen the work of the oil-painter." So sure of the former were some of the experimenters in photolithography that great effort was made to induce photographers to believe that the future of printed photographs laid in that direction. If the reader will refer to our early numbers (some veterans will remember without that), they will see that we maintained that chromos would simply increase the desire for pictures and lead to a better market for the painter; and that the photographer would never "print his dozens" by means of a lithographic press. We need not ask which prediction has bloomed into truth. We maintain now that all methods of picture-making may be made to work together for the grand result —picture-loving—and the good that grows from it, if all workers will diligently do their best in their own line.

At the late reunion of the Associate Alumni of the Normal College the beloved actor, Mr. Joseph Jefferson, made a charming address. Part of this was devoted to his ideas of art and genius—the difference between them. Both are necessary to the production of the best works of art. The learned actor and author—a fine painter and amateur photographer as well —in distinguishing the functions of oratory and acting, said that the orator was impressive and the actor impressionable; that is, the orator must make a certain effect on his hearers, while the actor must rather show what effect something has on him. In comparing the requirements of comedy and tragedy he spoke of Sir Joshua Reynolds's picture of David Garrick standing between the two muses. Garrick was asked whether comedy or tragedy was the more difficult. "Whether I am ill or well," he answered, "whether I am in low spirits or high spirits, I always feel equal to playing tragedy; but comedy is a serious matter." Mr. Jefferson illustrated the serious demands of the acting of comedy by the speeches of Dogberry

and the grave-diggers' scene, of which he recited nearly the whole. In touching on the subject of genius and art he said:

"Genius is a little apt to look with contempt on art, but I think genius makes a very great mistake. To have great excellence they should be combined. Genius produces, but art reproduces. See how important art is to drama in proportion to anything else, for in drama the same thing is always repeated. The painter may paint a new landscape or subject every time, but the actor must say night after night the same words, as if he had never said them before."

Mr. Jefferson's allusion to Sir Joshua Reynolds (whose portraits have been such an inspiration to many of us) brings to mind some few points concerning that noted painter which may be a help to many now. In the year 1768 the Royal Academy was founded and Sir Joshua called to its head. The personal characteristics of the new president had almost as much to do with the advance of English art as his artistic qualities. England one hundred years ago was under the rule of the aristocrats. They were the governing class. If art was to be advanced in England and artists to be recognized as important members of society, it must be shown that the function of art was a high one and that artists were necessary.

This change of sentiment was effected by Sir Joshua Reynolds. As a portraitist he rejected the stiff attitudes and arrangement of former artists and gave grace, dignity, and the distinction adapted to their characters to his sitters.

He once made a purchase of valuable Venetian paintings, then deliberately scraped away the color to the canvas to discover their technical secrets.

He was quick to seize principles, and the search for principles in those days was as common as the search for facts to-day.

The great master held that the great end of art is to strike the imagination. The artist, therefore, is to make no ostentation of the means by which this is done.

The Ground-Glass, last month, quoted from *Gut Licht* some of the opinions of Photography as expressed by noted painters when interviewed on the subject. We quote more of these (less dismal than the others), as they are sure to prove helpful to the earnest ones:

Professor Aubrey, Berlin, writes:

"I regard each photograph, even if it resembles a real work of art, as the result of a mechanical proceeding, and it is only a higher degree of taste and of art intelligence and the good mechanical, physical, and chemical knowledge which might efface the borders of artistic and mechanical production."

The marine painter, Hans Bohrdt, Berlin, says:

"If a piece of nature has passed the head of a man possessed of art intelligence and of technical knowledge, the production of this event in the form of an image is a work of art. If, however, a piece of nature has passed the camera of a photographer, the production is no work of art, even if the photographer is a man of high-art intelligence."

Brutt, sculptor, Berlin, can regard the best productions of photography only as a sign of skilfulness and good taste.

Prof. H. Crola, Dusseldorf, is of opinion that a photograph reproduced by a person endowed with art intelligence can show the characteristics of a work of art.

Prof. Emil Doepler, Berlin, concedes that photography can produce the effect of art by artistic conception, skilful disposition in the given space, and by good lighting.

Professor Anton von Werner, Director of the Royal Academical College of Plas-

tic Arts at Berlin, regards photography only as the production of a mechanical proceeding, as the subjective activity and the imagination of the artist can be missed.

Professor B. Vautrer, Dusseldorf, writes:

"After my opinion a photograph, made after the laws of art, can be considered as a work of art, but the photographic camera can produce such a photograph only if it is directed by an artist."

NOTES.

A California subscriber writes to *The Ground-Glass* that he has "been struggling with photography for a quarter of a century." He adds that "I was a poor boy when I began, but now I have two suits of clothes and a wife." Photography seems to just suit him.

"Now is the time to subscribe."—*Country Paper.*

The "New Woman" has stricken photography. She is travelling through the western part of this State as proprietor and operator of a peripatetic photographic car. She wears a man's hat (and) carries a revolver; is a first-class artist, and has more orders than she can attend to!

Words of comfort come to *The Ground-Glass* from one of our contributors in the North. He says: "Keep up your trust in all methods of process reproduction. Methods will improve immensely before long, be assured. Likewise go on steadily with your art instruction. You are on the best track. Teach the best that is in your power, and you will at least have the balm of an approving conscience to soothe the many wounds you are sure to receive in your work. The demands of improvement come hourly."

THE "DINNER-PLATE MOON."

BY A. G. MARSHALL.

THERE has been during the past year a luminous discussion as to the propriety of exaggerating the size of the moon for pictorial effect. The real excuse, or rather justification for this almost invariable practice among artists, I have not discovered in any of the various statements. It is this: A picture cannot convey an impression of all the truths of nature. The artist must select those which appeal to him and which at the same time are possible with his medium, and suggest these as best he can. In all representations of a luminary, either sun or moon, the idea of light becomes the special truth to be suggested. The means for this suggestion are painfully inadequate. White paper is the highest light possible. Yet white paper as an illuminator (when not in a state of combustion) is of very few candle-power. By lowering the tone of everything else the spot of white left for the moon begins to have some relative value. But a spot of white making an angle on the eye at the proper distance from the picture of only one-half a degree, which is the apparent size of the moon, is always found inadequate to suggest sufficient light. As the impression of light is here the most important truth to be conveyed, the less important truth of relative size is set aside, and the æsthetic eye and mind are satisfied. In the case of the sun there is less need for exaggeration of size, even though the intensity of illumination to be suggested is nearly a million times greater than the light of the moon. Here the artist is helped out by the general illumination of the sky and landscape, while with the moon but a trifling effect is visible in the atmosphere just around the orb, and only a few points of light touch the darkened landscape.

THE SUCCESS OF A NEW DEPARTURE—BACKWARD.

BY D. BACHRACH.

In reply to numerous inquiries, impossible to answer in detail, I will try to supplement my article in the September number of this MAGAZINE with such additional information and reasons for our action as will answer all queries made or anticipated. First as to the patrons. We have yet had but one objection among the hundreds of patrons served, and that one was thoroughly satisfied by handing her one of our "Notices to Our Patrons" which had accidentally been omitted. Our work is far more uniform, and we believe more permanent than in "days of yore," owing to the new treatment of albumen paper spoken of. The waste is less, the spotting-out and finishing so much easier that we have been able to dispense with one assistant in that line. As an offset to the advantages here enumerated, however, it must be remembered that we had been using gelatine papers by the most reliable and best-known makers (sad experience caused us to reject all the most obscure and cheapest), toned and fixed separately, as, for good reasons, we never would trust combined baths with alum and lead salts, and this method was used to insure the utmost permanence possible. Hence the dark full-out prints were always more or less wavy and uneven, which is not the case when the combined bath is used.

But our principal and moving motives were these: We saw our profession being discredited by fading and discolored prints; even some of our own in the short space of a few months, despite all the care we used. When I saw the frames full of faded gelatine and collodion prints among the theatrical companies, the discoloration of "combined-bath" prints in the showcases of our competitors, the brick red color and actual disappearing of what was supposed to be most permanent collodion emulsion prints, and the peeling, scratching, and cracking of the same in the albums and picture-boxes at the homes of patrons; when, in fact, I saw more nasty, discolored, faded, and defaced prints in two years than I have seen in the whole period of my experience at photography, my own self-interest prompted me to do my best to "reverse the engine," and not proceed further on the road to the financial destruction of our profession and its degradation. It is not philanthropy, but "an intelligent self-interest," as Mr. Blaine so aptly put it, which we are practising, and that is, after all, true philanthropy. But no one man can either reform or ruin a profession, though it takes far less to ruin than to improve it. It requires the co-operation of many, hence I want others to share what I consider a good thing for all of us.

Not far from our studio I have been watching for a few months a batch of collodion prints, which I know were made on a "reliable" brand of paper, exposed to sunlight for about half the day. They are brick red, every detail in the lighter portions nearly gone, and this disease seems to have affected not a few, but everyone of them.

It is not reasonable to suppose that an establishment having years of experience is going to deliberately work contrary to the plain directions and precautions given by the manufacturers. At least some of the prints one would suppose might escape this fate. I am positive that in this same window a similar number of albumen prints made under the usual conditions would not present such a pitiable sight in

a few short months, at least I have never seen such an example. In addition to this, week after week, pictures come in to be copied, mostly in one or the other of the stages I have mentioned. We used to think albumen prints were not permanent. Why, in comparison to the present demoralized condition, they are as rock compared to sand. It seems that we cannot even trust the matt-surface papers, as we tried a sample of one kind a few months ago, the prints from which have all changed, though directions were strictly followed. So far the "aristo-platino" paper has stood pretty well, but we can tell more about that in a year or two.

It is not worth my while to answer the argument that will be made by manufacturers that all these people "don't know how to use the papers," "don't use proper care," etc. Here we are met by the stubborn fact, that away back ignorant photographers (who, in many cases were utterly incompetent, and had none of the clear "directions with each package") actually made prints, the most of which stood for years, and of all the vast multitude made not as many faded pictures can be found as are now in existence of emulsion prints made within three years. Photographers, it is useless to trifle with a fact which any of you can easily demonstrate to your own satisfaction. But there is the additional artistic reason, that emulsion prints are less fleshy, less true to Nature, and have not the artistic qualities of albumen or plain paper productions.

The aristo-platino paper so far forms an exception, in my opinion, to the unfortunate disadvantages I have pointed out, which seem to be inherent in most of the emulsion papers. In order that our profession may remain to us the means of making even a livelihood, we must work for absolute permanence and artistic quality combined, and pray, when we have such magnificent processes as the platinotype and carbon, which, in the nature of things, will never come handy for the fakirs and "cheap Johns," why not gradually turn our efforts in that direction?

KIRKLAND'S LITHIUM PAPER.[1]

BY A. HELMOLD,
Clinton, Mass.

AMONG so many excellent brands of modern printing-out papers, both collodion and gelatine, it is not so easy to decide which of them all is the most satisfactory and reliable; nothing is more natural than that different persons should come to different conclusions. From the outset I favored gelatine papers, and have ever since been true to them, although every now and again I would give collodion papers a trial. Well pleased with these up to the point where they had to be washed, toned, and fixed, their inveterate curling propensities when wet dampened my admiration, and I invariably returned to gelatine after each trial.

Yet nothing is perfect here below, and even gelatine (in my hands) does not always do all things well. When making white vignettes I have often found it very difficult to obtain that pure white effect which I greatly admire in such pictures. My customers never found fault on that score, but I did. We all want more than the money for our conscientious work; we want to feel pleased with our efforts.

Scrupulous cleanliness, strict attention to detail, the study of the whys and where-

[1] The manufacturer's method of working and other useful information may be had free by application to Kirkland's Lithium Paper Co., Denver, Colorado.

fores, all failed to give me pure white vignettes. I blamed only myself. At last I got "on my ear." I ordered samples of the best makes of gelatine papers known to me by name, Lithium included (a paper which after a superficial trial, quite a while ago, I had discarded, as it required hardening before it could be trusted, even in cold water). It struck me at that time as too tender-hearted and too easily moved. Having obtained the samples, I made prints on all of them, treated them according to kind, finished them, and then compared results. I use Lithium paper now for white vignettes.

In other hands—yes; but you see I have to use my own hands.

The necessity of using a preliminary hardener with Lithium paper, on account of which I had before given it the cold shoulder, I now find to be an advantage. After the hardening solution only two washings in clean water are necessary, and the hottest summer day cannot melt the films in the after-manipulations. They are as safe from the effects of heat as collodion papers, and much safer from abrasion. Being nearly waterproof, that of itself must favor permanency.

About the time I made these tests of the different gelatine papers, I had just read a treatise on the permanency of silver prints (*Photo. Chemistry*, by R. Ed. Liesegang, p. 108). Comparing what I had learned there with the formula and intructions accompanying the Lithium paper, I was truly surprised to notice how closely the latter fulfilled the conditions most favorable to permanency, as demonstrated by Professor Liesegang from his standpoint as a thorough chemist. This is especially true of the formula for separate toning with alkali gold. Sulphurization in fixing seems to be absolutely excluded.

Developed prints may some time—possibly before long—leave even Lithium paper behind in the race for permanency and pure whites, but not until a developer has been discovered, less niffy and ticklish than those now in use.

A POINTER FOR THE PRINTER.

BY F. A. BALCH.

I HAVE noticed your repeated request that the readers and practical workers contribute a little toward the general make-up of your fine and progressive MAGAZINE. Here is a little printing knack which may be new to some, as I have never seen it in print. Perhaps it will be the means of helping some poor mortal who is trying to do his best, but finds it uphill work. I learned it in copying a tintype, which, at first sight, I thought would be an easy task; but when I came to work on it I found I had miscalculated. The portrait was of a soft mellow white all over, and I could not get any contrast in my negative; it was sharp and bright, but the face, dress, and ground printed all alike. I tried half a dozen different ways to print it in the attempt to get a little life into my copy, but could not get anything to please me. As I stood beside my bench, trying to think of the best dodge, I looked up, and there lay a large hand- or reading-glass. It seemed to say (or at least I thought I heard it), "Why don't you let me shade it up, for I can do it just as you want?" I put in a new piece of paper and made another print, printing it just deep enough for the high-lights; I then took the glass in my right hand and the frame in my left, sat down beside a window, where I could just keep the frame out of the sun and the glass in the sun, and in a short time I printed the dress, shaded one side

of the face, and printed in a slight background around the neck and shoulders. The result was very pleasing, to say the least. Do not draw the light to a focus; if you do, it will burn, of course. Neither should the glass be held still, but keep it moving over the part of the negative you wish to bring out stronger, and you can print it just as you like.

Did you ever have a little girl come to your studio, wearing a pretty white dress? If you have had this experience, you will have found that when you printed from the negative you could not bring out the detail as you would like, without getting the face too dark. When next you have such a case print the face just as you like, and then take the glass and print the dress or any other part of it to the desired depth. When they are finished you will feel well repaid for your extra trouble.

Last week I was called to a private house to make a group portrait of four generations, a straight line, the oldest a venerable lady who has used up nearly fourscore and ten years; the youngest a young man who only arrived here about three months ago. Of course, he was togged out in white.

I arranged the group as well as I could, made a couple of exposures, came home, and developed them. The young man was right on hand, the first to show up, and before the rest got strong enough he was stronger than I desired. When it came to printing, however, he lagged behind; the old lady came out ahead. In the second proof I made I printed the old folks almost enough, then took my glass, and in a short time brought the young man up to the desired strength with the details of the dress. I also printed out the lace curtains, which in the first proof were almost white.

A short time ago I was called to go about twenty miles away, to make some photographs of a river, mill and dam for legal purposes. When making one view there was as fine a bank of clouds as you could wish for, but the river and bank in the foreground were dark green. I exposed for the latter. When I developed the negative I took care to carry it only far enough to bring out detail, and in printing I first took my glass and brought the clouds up to the right strength, then sat the frame in subdued light and printed the rest. The mild light had a tendency to produce a little atmospheric effect. I do not suppose the clouds in the picture had much weight in law, but they had a good deal to do with the make-up of the picture. "Oh! what a bother," I hear some one exclaim. I can only say in reply that in the more than twenty-five years since I began to make pictures I have never made a good one without some bother, and do not expect to do so.

In using the glass do not print much darker than you want the print when finished, because the parts printed with the strong light do not "go back" in toning and fixing as much as the parts printed in the softer light. If the sun is very hot and strong, you will get better results by fixing a thin sheet of tissue paper over the window until you get used to the light and understand what you want. Do not be disappointed if you spoil a print or two at first. You had better do that and get a good one at last, than put out half a dozen mediocre prints. Finally, the oftener this little dodge is used, so much the more will its advantages be appreciated and its various applications seen.

To photograph coins and medals, the best method is to make plaster casts of the objects, tinting the casts lighter or darker according to the metal of which the medal is made, silver, copper, etc. By this means all troublesome reflections from bright surfaces are avoided, and both the obverse and reverse of the medal can be secured on the same negative.

[Translated from the *Photo. Correspondenz* for WILSON'S PHOTOGRAPHIC MAGAZINE.]

SOLARIZATION WITH SHORT EXPOSURES ON DRY PLATES.

BY R. ED. LIESEGANG, PH.D.

SOLARIZATION proper—that is, the formation of a positive instead of a negative—takes place only when the plate has been very much overexposed in the camera. Whether this is a reversal of the light-action, or only a peculiarity of the development, has not yet been positively ascertained. The first supposition, however, is the most probable: that light, which at first acted as a reducer, reoxidizes the suboxide of silver salt, first formed, when the exposure becomes very prolonged. This explanation would appear to be substantiated by the fact that printing-out papers can become solarized. But I was a short time ago able to prove that overexposed plates, which with one of the ordinary developers (for instance, pyro or hydroquinone) would invariably give a positive, instead of a negative, as expected, produced, when treated with a vanadin or molybdanum suboxide salt, a negative (*Photo. Archiv*, 1895, p. 282). To be sure, this negative does not consist of the same material as common negatives. A closer study would probably show that here no metallic silver exists.

The reversal of the picture with short exposures would seem to support this supposition. But I nevertheless found that other facts come into play here also, which do not operate in common solarized plates, and for this reason I have given it the name of "pseudo-solarization."

Reversals with short exposures will be found to occur oftenest when the plate becomes light-struck while yet in the developer. The explanation is not difficult: Upon the surface of the bromide of silver gelatine film a weak negative has been developed. Now, if light strikes the whole plate, it acts strongest on those parts not before exposed. In those places covered by the original negative it can penetrate but little or not at all. If the second light-action was stronger than the first, then the newly formed positive will be stronger than the original negative. Another observation strengthens this belief: If before exposure a weak mark with graphite has been made upon the plate where the sky of the picture is to be, that mark will give in the print a strong positive impression, The graphite had prevented the action of the light upon the bromide of silver which it covered, and so the surrounding parts could become denser.

Another cause of pseudo-solarization is that a soluble silver salt was either present at the outset in the plate, or is produced during development. The latter could take place if hypo had been added to the developer for the purpose of acceleration, etc., and also when other solvents of the silver chloride—for instance, ammonia—have been mixed with the developer.

This soluble silver is reduced by the developer, and this reduction may become greater in those places not exposed to light than in those exposed to it. In such cases not black, but red silver is formed, such as is obtained in printing-out chloride of silver papers.

I first observed this kind of reversal in a chloride of silver plate from which the nitrate of silver had been but partially removed. I had intended it for a screen negative, as it would give an especially hard negative.

The exposure had been much too short, and on that account I left it in the oxalate of iron developer for a longer time. At

first the exposed parts came out black, like a correct negative. After an hour the picture began to become reversed. Several hours later I found an intense brown picture before me.

In drying the plate became very impervious to light. The surface was of a dead reddish-gray; but when I touched it with a wet finger that place would turn intensely bright red, showing again, by transmitted light, a vigorous brown positive. But the original negative had not been lost; it was perceptible in the small pure black spots, the intensity of which, however, as compared to the adjacent brown, was but feeble.

The same experience I had in treating an underexposed chloride of silver plate—exposed behind a screen—for several hours with the usual pyro-soda developer: a strong brown positive by the side of a feeble black negative.

There can be no doubt that the presence of the—behind a screen—unexposed lines greatly assists the formation of the positive. Much more than in other exposures, strongly exposed and non-exposed parts are here found side by side.

In the development of underexposed bromide of silver gelatine plates, also (particularly screen exposures) with a pyro developer containing hypo, such red positives may result. The red tint of the unexposed parts will then appear especially strong as compared with the original black negative.

The reasons for this I have already presented in the article concerning the influence of "Hypo in Alkali Developers" (*Photo. Archiv*, 1895, p. 289). Why the red modification of silver should form only in the unexposed parts, and not where the light had acted, becomes plain when we consider that it is formed by the reduction of the dissolved silver salt. In the exposed parts, on the other hand, less bromide of silver can become dissolved in the hypo, as it had already been reduced in part by metallic (black) silver.

The (secondary) positive may be partly removed by rubbing; the reduction of the soluble silver salt takes place not only in the film, but also upon its surface, as, on account of its solubility, it can ooze out.

Ammonia, so often used in place of the carbonate alkali, acts exactly like the hypo. This explains the observations made by Kagelmann two years ago (*Photo. Correspondenz*, 1893, p. 163): "Metol with ammonia develops, in a normally exposed plate, a diapositive. But this diapositive is a hybrid, with an exceedingly thin negative on top, underneath a positive; clear whites are absent in consequence. In the negative the reduced silver is of normal gray appearance; the positive looks gray-yellow by reflected—violet by transmitted—light. The positive predominates, but no case is on record where the negative was entirely absent.

Amidol with much ammonia develops in normally exposed plates a diapositive; but this also, as the above, is a hybrid, a delicate upper negative and a predominating positive underneath."

In every pseudo-solarization the original negative remains beside the new (usually brown-red) positive. In this it differs from the usual solarization by overexposure.

It is also characteristic of pseudo-solarizations caused by the presence of soluble silver that they can scarcely be fixed at all, for the reason that the silver which has been reduced from the salt forms a continuous layer, which hinders the penetration of the hypo or the diffusion of the silver haloid dissolved by it. Thus these plates remain light-sensitive. If, with the positive but slightly formed, such plates are left exposed to light, the positive gradually becomes stronger and the reversal is not complete only in the finished plate.

Translated from *Phot. Rundschau* for WILSON'S PHOTOGRAPHIC MAGAZINE.

NO MORE YELLOW DISCOLORATION; NO MORE GREEN FOG.

BY E. HÖFINGHOFF.
Barmen.

I HAVE before this published my experience, founded on thorough experiments, with yellow discolorations and green fog on bromide of silver gelatine plates and their causes. But it would appear that my communications have not been sufficiently heeded, as still many complaints of these evils are heard, and as the majority of photographers are helpless when face to face with such phenomena. Not to repeat what I have already said, I will now simply point out a simple, sure, and inexpensive means of prevention. This preventive has so far proven itself infallible with all the different brands of plates. It consists in a thorough washing of the plates after developing, before fixing. At average temperature of the water (12°) five minutes' soaking of the developed plate in a dish of clean water, after a preliminary good rinsing under the tap, usually removes all traces of the developer. It will be found that plates which with ordinary treatment become discolored remain clear when so washed.

The explanation is as follows:

I found that especially those plates which had a comparatively thick coating, and in which the gelatine was still fresh and adhesive, in other words, had suffered but little by heat while the emulsion was being made, were most inclined to discoloration with certain developers, above all others with eikonogen and hydroquinone, also requiring more time in the fixing-bath than thinner coatings or such in which the gelatine had somewhat lost its adhesiveness. The former films retain the developers more stubbornly, especially in the clear parts, than the latter, and simple rinsing, as usually practised, fails to remove it. Where traces of the developer still remain in the film, a complete fixing out of the bromide of silver, which had not been affected by light, is impossible, and this it is which gives rise to the formation of discoloration and green fog in those places. Thorough washing between developing and fixing is the cure. It would be interesting if those who have been troubled with yellowness and fog would treat their plates as indicated, and report to me the good results which are sure to follow.

THE PRESENT CONDITION OF PHOTOGRAPHY AS A BUSINESS.

ANSWERS TO QUESTIONS TO THE CRAFT.

(Continued from page 541, vol. xxxii.)

THE first paper of this series, given in our last number, has awakened widespread interest among the fraternity. The questions are recognized as touching business details of every-day importance, and it is very desirable that as many of our readers as possible give their experience. Help us to keep the series moving. We publish now the answers received since our December (1895) issue went to press, and will gladly make room for more in our next number. Will every reader of this MAGAZINE please consider this a personal invitation to send his brief comments upon the questions which we reprint for this purpose?

Question 1 :

What are the business prospects at present?

Answers :

The outlook is very encouraging. We have had a plentiful harvest in this locality, and business must come therefrom, of which the photographer will get his share. —A. B. De Groat, Bath, N. Y.

Business is gradually improving all the time, and latterly has been quite brisk.— R. D. Beem, Greenville, O.

In this town the financial stringency continues to increase in severity, and money gets scarcer all the time. Consequently I am doing more business than last year with less income in return—as I have to meet the general demand for low prices.—E. M. Estabrooke, Elizabeth, N. J.

Not very bright.—Chas. Fritsch, Pittston, Pa.

The business prospects are good. Times have been dull, and there is every prospect of a grand revival.—Pach Bros., New York.

Question 2 :

Do you advertise or make your work and facilities known in your locality?

Answers :

We advertise chiefly by means of our work.—Arthur & Philbric, Detroit, Mich.

I have not advertised of late, except by making a special effort with my display of specimens.—Hy. Holler, Brooklyn, N. Y.

Yes, I advertise and find it profitable. —M. M. Mudge, Valparaiso, Ind.

I advertise considerably by newspapers, by keeping a good display at the gallery, continually changed, and by specimens of attractive work in local stores.—Thos. B. Clark, Indiana, Pa.

We advertise to a very liberal extent, although it may only keep the name before the public. We always claim a photographer's best advertisement is the work he sends out.—Pach Bros., New York.

Question 3 :

Do you use orthochromatic or isochromatic plates to any extent, and especially in portraiture, and how?

Answers :

I do not use orthochromatic plates to any great extent, but consider them a valuable help in portraiture when the price secured for the work warrants their use.—D. J. Cook, Concord, Mich.

We do not use orthochromatic plates.— Arthur & Philbric, Detroit, Mich.

Yes, I find isochromatic plates useful. —Hy. Holler, Brooklyn, N. Y.

No.—S. Y. Richards, Corning, N. Y.; M. M. Mudge, Valparaiso, Ind.; A. B. Buell, Hackettstown, N. J.; Thos. B. Clark, Indiana, Pa.

We have never used any but the ordinary dry-plates successfully.—Pach Bros., New York.

Question 4 :

Have you found half-tone photo-engraving of service to you?

Answer :

We have not had use for the half-tone process, as our trade does not demand it. —Pach Bros., New York.

Question 5 :

Is there an increased demand from manufacturers, merchants, railroads, etc., for large quantities of prints?

Answer :

We think that there is not near as much work done for manufacturers as formerly. There is a very cheap class of work done on a very large scale that is entirely out of our line.—Pach Bros., New York.

Question 6 :

How do you handle such orders?

Answer:

We don't handle them at all.—Pach Bros., New York.

Question 7:

Does outdoor and commercial business increase and in what direction?

Answer:

Outdoor work is not increasing, but fine work is done for those who appreciate it more than formerly.—Pach Bros., New York.

Question 8:

What seem to be the weakest points of your business; that is, those in which you would appreciate some helpful suggestions?

Answer:

We would say to get men educated to do the very best kind of work.—Pach Bros., New York.

Question 9:

Is your work satisfactory?

Answer:

The public seem to indorse it.—Pach Bros., New York.

Question 10:

How could service generally be improved?

Answer:

By getting assistants who will think out how to do better work.—Pach Bros., New York.

Question 11:

What class of help is most needed—specialists or all-around men?

Answer:

Specialists by all means.—Pach Bros., New York.

Question 12:

What novelties in business do you find profitable?

Answer:

We have none.—Pach Bros., New York.

Question 13:

Do you practically find the new printing papers to give as satisfactory and permanent results as albumen paper?

Answer:

Albumen is the paper which has given the most satisfaction so far.—Pach Bros., New York.

Question 14:

Is the demonstrator in your dark-room and in your printing-room a necessity to you?

Answer:

We have found the demonstrator of very little or no use, for often we do work superior to the demonstrator.—Pach Bros., New York.

Question 15:

In what way do you think general business could be conducted more economically?

Answers:

By making two good negatives at a reasonable charge, and strictly charging all re-sittings where from six to ten are necessary to please; or by fixing prices so that such cases can be covered without the usual loss.—A. L. Bowersox, Dayton, O.

By the photographer managing his studio as simply an artist's atelier, making negatives only and having all the finishing of his work done by a firm making a specialty of such work for several studios.—D. J. Cook, Concord, Mich.

That is a nut we have been trying to crack for twenty-five years.—Pach Bros., New York.

By having in many convenient centres of distribution stock-houses able to supply *all* standard materials and supplies, and thus saving the photographer the extra

expressage he has to pay nine times out of ten for this or that sent on from the factory because his dealer does not stock it.—Minns, Akron, O.

Question 16:
How can this MAGAZINE be made to serve you better?

Answer:
We think it is "tip-top" as it is, and make use of suggestions.—Pach Bros., New York.

Question 17:
Can and will you suggest some topics that you would like to see treated and which we seem to have either neglected or overlooked?

Answer:
What we would like to see started is a school of photography, where specialists could be educated. — Pach Bros., New York.

Question 18:
Do you find yourself profiting by the application of art principles to your work?

Answers:
We do.—Pach Bros., New York.

Question 19:
Will you favor us with copies of your printed matter, such as circulars, price-lists, proofs, notes, etc.?

Answer:
We send you all we have, but we use but very few.—Pach Bros., New York.

Question 20:
When you find a useful measure or dodge in the transaction of your business will you not jot it down and send it to us for publication for the good of the craft?

Answers:
This question is generally answered in the affirmative, and good may be looked for later. Mr. A. B. De Groat relates his experience of a year's hard fight with a cut-price competitor. After a struggle Mr. De Groat was victorious—by sticking to his prices and doing good work—and making his plucky principles known and understood in his locality. This is a safe plan to follow in such a case, provided that you are sure you can "hold on" long enough to tire out your competitor.

Mr. Cook sends several practical dodges, which will be presented in full in a later issue of the MAGAZINE.

Mr. Minns strongly dissents from the free exchange of useful dodgers, or recipes, or formulæ, and argues that it would be folly to give to the "other man" what he has "lain awake nights" to perfect and make useful. We admire his candor, but would counsel the use of a modern anastigmat lens for the correction of his aberration.

Certainly.—Pach Bros., New York.

NEWS AND NOTES.

RAPID plates! In a testimonial used by an English firm in the advertisement of their special rapid plates, a photographer testifies that with the plates mentioned he can secure good portraits when the light is too dull to permit of focussing the image on the ground-glass with open lens. "Merrie England," indeed, with such light and plates!

Photographic optics and wet collodion photography are the editorial features of the *British Journal Almanack for 1896.*

At the annual meeting of the British Photographers' Copyright Union, the report of the first year's work showed substantial progress. Over one thousand members are now enrolled in this league

for the protection of photographic rights, these including the principal photographic publishers, professional and amateur photographers. The work of the Union has so far proved most successful. American photographers should take note of this and support the American Photographic Copyright League.

A new, revised edition of Burton's *Manual of Photography* has been published by Percy Lund & Co., Bradford, England. We believe this must be the eleventh edition of this popular handbook. It is full of practical information, useful alike to the amateur and professional worker.

Photoceramics are attracting attention in England, and there are not wanting signs that this application of photography will have a certain amount of popularity in this country during the next year or two. Mr. G. Gennert is about to publish a good handbook on the subject. We recommend our professional readers to become acquainted with the process.

The copyright question was recently stated in a nutshell by an English judge (Baron Pollock), who said that "A man has as much property in his copyright as he has in any other personal property." It is simply a question of vendor and purchaser, says the *British Journal*, speaking of the matter in reference to the payment of a fee by those desiring to reproduce a copyrighted picture. The photographer may fix what price he likes on his work, and if the reproducer does not care to pay the price asked, he can leave it alone.

The *British Journal*, commenting upon the half-tone engravings in a certain photographic annual published on this side of the water, says: "The pictures show that American photographers have yet much to learn in the nice art of unconstrained grouping and posing." The criticism is in some instances just and helpful. Photographers will do well to avoid over-ambitious efforts, and should use care in the selection of models, who too often lack ease and naturalness when facing the camera. *Burnet* will help in this.

A correspondent in the *British Journal* mentions the fact that a firm of photographers with whom he was employed, and whose business amounted to over $90,000 per year, paid their retoucher from $5 to $6 per week for his services. For this remuneration he was expected to retouch over thirty negatives a day. An interesting article on this matter, written by Mrs. E. M. White, a lady retoucher with many years' experience in a New York gallery, will be found in *Mosaics*, 1896.

Instantaneous Photography, by Captain Abney, just published in England, is, we believe, the first and only work on this special branch for English readers.

The *Photographic News*, oldest of British photographic journals, begins a new series with the new year. The paper is to be much improved and sold at 1*d.* weekly.

Mr. Thomas Bolas, for many years editor of the *Photographic News*, *Photographic Work*, etc., has written a treatise on the *Photographic Studio*, which is highly spoken of by the technical journals. In this work the various types of sky and side-lights are compared and discussed from a practical point of view.

The most comprehensive chronological record of the inventors and discoverers of photography with which we are acquainted is that given by Mr. A. J. Jarman before the Society of Amateur Photographers of New York at a recent meeting. We are glad to see this interesting record preserved in the Society's *Journal*.

J. Ed. Rösch. *St. Louis.*

A MODEL DISPLAY

Accompanying WILSON'S PHOTOGRAPHIC MAGAZINE, *January*, 1896.

THE OLD YEAR AND THE NEW YEAR.

THE OLD YEAR.

THE NEW YEAR.

F. G. Schumacher, Photographer, Los Angeles, Cal.

THE two suggestive little studies above are printed with the compliments of the editors of this MAGAZINE and of their maker, Mr. F. G. Schumacher. They speak for themselves. They represent the old year weeping away its last breath, making its departure with an empty result, and the new year coming in full of glee and good will for everybody, likewise with an empty vessel in its hand, for results and not for regrets. May they both help the new year photographer on his way. They are worth keeping before one all the time.

A PILGRIMAGE AFTER THE PICTORIAL IN PORTRAITURE.

(Continued from page 460.)

III.

AGREEABLE to promise made in our last article, we present herewith for the illustration of our subject, small engravings of four of the studies from the studio of Mr. B. J. Falk, of our city. At first, those who have joined our pilgrimage (see pages 405 and 461 of our last volume) may feel some disappointment at the few accessories embodied in these pictures. We judge this from the number of letters we have had on the subject. Since our pilgrimage began the writers of these seem to feel that we have been suggesting that accessories be thrown thickly into pictures.

We should not be mistaken in this direction. Our scheme is that photographers should supply themselves with a variety of acceptable articles, and then

introduce them, whenever occasion occurred, harmoniously, with judgment and with taste. Evidently Mr. Falk understood our meaning, for, as will be seen, the accessories he introduces are few. Yet they are so tastefully chosen and so placed as to make them show with great effect. Remove from the hands of the ladies the mandolin, or the spray of flowers, or, from the other pictures, the vases, the cushions,

Virginia Earle.
Bertha Creighton.

In the Library.
Bertha Creighton.

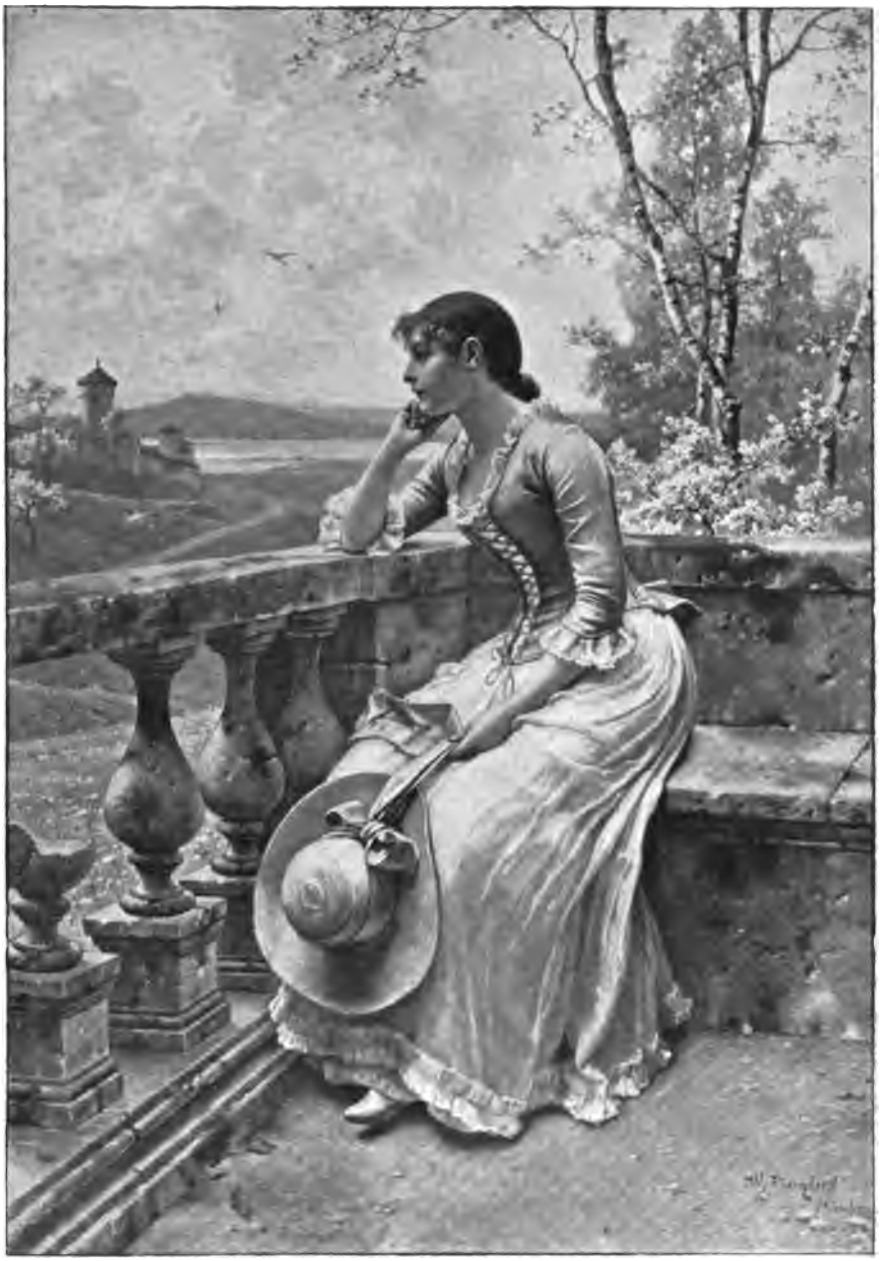
ACCESSORY SUGGESTIONS.

(Copyrighted by B. J. Falk, N. Y., 1895.)

IN THE STUDIO.

or the rugs, etc., and study what difference in appearance would be made; and think what fine improvements are thus had—what pictorial advantages are secured by the introduction of the accessories. It is unnecessary now to push our point further than we have done in our first article. (Copies of this we can supply to those who have it not.)

To illustrate again what we mean, from



REVERIE.

an art collection which has been placed at our disposal we offer two more pictures. One of these is called "In the Studio," and the other "Reverie." They represent an interior and an exterior view. In both of these, accessories, such as we have advised, have been introduced. Of the backgrounds, we have nothing to say. They

do not make part of our scheme, although in actual arrangement they should always be considered.

From the points which help to make up the pictures, our readers, with open minds, will now be able to gather suggestions which may help them.

We have only to say further that here our pilgrimage will end for the present. The Bureau of Beauty, which has been advertised in our former numbers, offering to help photographers select the articles named, will now be closed, since its usefulness is ended. It was intended only to set the minds of photographers in the right direction. In other words, to get the pilgrimage to moving. Now, since that is done, we trust our scheme will continue without the help of the Bureau. The large collection of accessories to which we have alluded from time to time is that of Messrs. A. A. Vantine & Co., Broadway, N. Y. To these gentlemen requests for particulars, prices, and schemes, offered by the Bureau of Beauty, must now be made.

Just a few closing suggestions, and then we are done. It should be the duty of every photographic artist to impress his subjects with gracefulness and truth. The charm of every picture depends very much upon the skilful management of contrast, both in form and color. This is brought about by the varying direction of the lines and by diverting the eye from other positive forms; and not by violent contrasts.

The matter of the massing of the light and shade should always be taken into consideration, as well as the planning of the lines. Care should be had not to destroy the feeling of repose and naturalness required in every picture. Every line should appear natural and never forced. One of the best artist's maxims is that "truth owns but one direct and perfect line." There must be a variety, but there must be a whole. Without simplicity no composition can be complete. Many photographers degenerate into pedantry, and their affectation is made plainly visible, because they consider the production of striking effects more than they do simplicity in their compositions.

In the arrangement of accessories in particular (which should be used to complete and not to make the picture) nothing should be attempted which disturbs the composition or which hurts the eye; or, in other words, which is too apparent in light, or shadow, or line, or shape. All must be appropriate and in accordance with the desired effect. It is the unity of the whole which commands the interest and admiration of the spectator. Whatever objects you are tempted to introduce, before you proceed to place them you should ask yourself, What position for these would best express my intention?

Frequent exercises after this manner will greatly improve your taste. It is true, that what one artist condemns another introduces. Nevertheless their arrangements may be entirely dissimilar, while their results may appear equally pleasing. This has been demonstrated over and over by the efforts made to illustrate popular poetical works, as shown at our conventions. At the same time, as we have frequently said, there must be a purpose apparent through all the picture, and that purpose carefully and thoroughly followed. Without this all will fall short of the desired climax—*i. e.*, of being good art-work.

Carbon portraits having a matt surface and an especially artistic appearance can be obtained by using the Autotype Company's specially prepared etching paper as the final support. The use of this paper obviates the blistering which often takes place when Whatman's rough paper is used.

THE TREATMENT OF THE SUBJECT UNDER THE SKYLIGHT.

BY J. ED RÖSCH.

J. Ed. Rösch, St. Louis, Mo.

A MISSOURI BELLE.

THE foundation of success in portraiture lies in securing a pleasing likeness; and this, in nine cases out of ten, depends upon the photographer's treatment of his subject at the time of the sitting. The matter is one which is much neglected and difficult to talk about, inasmuch as so much depends upon the individuality of the photographer. I will, however do my best, hoping thus to contribute a mite toward the advancement of portraiture for 1896.

Unfortunately, with a majority of the public, sitting for a photograph is a proceeding thought over and planned beforehand, often with a certain amount of apprehension or nervousness; and this, with the immediate preparations as to appearance, dress, etc., for the sitting, brings the average sitter to the studio in a frame of mind altogether unfavorable to the end in view. When nervousness is absent there is in some instances an affected air of unconcern, or awkwardness, or a species of rigidity or "setness" of expression, all alike fatal to the obtaining of a pleasing picture.

The first attention of the photographer, therefore, as he receives his sitters in the studio, should be directed to set them at ease with themselves, with their surroundings, and with himself. In every other department of the establishment set rules may be laid down and enforced for the proper conduct of the business. In the studio, however, there should appear nothing suggesting rigid rules or constraint of any kind. Much may be accomplished by a courteous manner in meeting sitters; by an easy conversation for a few moments touching upon some subject of topical or local

J. Ed. Rösch, St. Louis, Mo.

SUGGESTIONS.

interest. Where the order-check system is in use, the photographer should quietly address his sitters by name, and assure them of his genuine pleasure in their presence and patronage, of his desire to make them thoroughly comfortable, and the assurance

of his special attention and service. With some sitters a pleasant, affable manner will win confidence; with others a quiet gravity in address and bearing will best attain the end. With children, a not too obtrusive expression of comradeship will generally bring success. While this is going forward an assistant should be quietly preparing what is necessary for the sitting, aided by a hint from the photographer as to details.

When possible, the general disposition of the subject, the pose, lighting, and rough focussing should be thought of and done before the actual posing of the sitter. Once begun, this stage of the sitting should be accomplished as expeditiously as possible, the subject being kept thoroughly at ease or animated, as the case may need, by the attentions of the operator.

At the moment of exposure—the critical point upon which the success of the sitting depends—the sitter should be led to forget, as far as can be, the surroundings and immediate object of the visit. This can be accomplished by conversation upon a matter which is found to possess special interest to the sitter, or by any other device suited to the occasion which may suggest itself to the photographer. The instruction to the sitter to look steadily at any particular spot about the studio is the surest way to ruin the effect desired, and should be avoided. If, however, the subject can be animated by conversation, a momentary pause will suffice for the exposure, and a successful picture may be confidently looked for.

With particularly nervous subjects any continued strain of the eyes, or of attention, should be avoided, abundance of time for rest being given between the exposures. Often I have succeeded with such sitters by remarking gently upon the undoubted difficulty of feeling at ease or smiling under the circumstances, and then, in the interval of pleasurable complacency, as my sitter appreciated that I realized the difficulty, I have made my exposure and secured my picture.

It is well to remember, always, that with many people the manner of the photographer may be communicated to the sitter. Thus I have known photographers so full of good humor and affability in their treatment of sitters that unconsciously their apparent confidence and good-will have aroused in the sitters the desired expression, dissipating the constraint which oppressed, and making them feel thoroughly at ease. I need hardly say that these are successful portraitists.

If special requests are made for the gratification of this or that whim for other poses, etc., deal with such things in a way which will convince the sitter that your only desire is to please them. When the sitting is over, a few words upon the details of the retouching, or that "the proof will be in a sense simply a rough sketch of the finished picture," etc., or other little attentions, will complete the pleasant impression made upon your patrons during their visit, and they will depart more than satisfied with your efforts to please, and inclined to pass a favorable judgment rather than otherwise upon the proofs of their pictures when received.

Yellow stains on negatives, caused by decomposed developer, or insufficient or decomposed sulphite of soda in the developer, may be removed by immersing the well-washed negative in the following solution:

Sulphate of Iron . . .	3 ounces.
Sulphuric Acid	1 ounce.
Alum	1 "
Water	20 ounces.

Wash well and dry. A mottled appearance on the negative may usually be traced to the use of a fixing bath containing alum, if this is old or turbid. Crystallization on the negative and fading of the image are due to imperfect elimination of the hypo.

THE ALTERATION OF PERSPECTIVE BY REPRODUCTION.

BY R. D. GRAY.

No. 1.

THAT the perspective of a picture may be altered considerably by photographic reproduction may be known to many photographers, but I have not noticed the method described in print, nor that much practical use has yet been made of it. The two engravings will show what can be done, and may interest those who make lantern slides and negatives with the intention of reproducing them. In many instances it is not possible to keep the ground glass of the camera vertical and have other things as we wish them, especially instantaneous views in streets. In my own practice I arrange the camera so as to get the best general definition with large aperture of lens, without special regard to the vertical position of the ground-glass, and depend on the following simple method of correcting the lines that should be parallel. A camera for making transparencies, with a swing at each end, so both negative and ground-glass can be tilted from a right angle to the optical centre of the system, is necessary. To produce the effect of No. 1, incline the sky of the *negative* toward the lens until the vertical lines become parallel in the image. No. 2 is produced by inclining the *ground-glass* with sky furthest from the objective until the lines become parallel. The vertical lines in the negative from which these engravings were made converged 15° toward the top. Both reproductions are exaggerations of heights, No. 2 being nearer the truth. It is obvious that correct results can be attained by tilting both negative and ground-glass, also that the artistic value of photographs can be increased by exaggerating parts, such as the

No. 2

height of mountains and waterfalls, or any subject in which truthful proportions are not very essential.

The angle, or proportionate distance between the negative and image, has much to do with the effect—thus, with a long-distance, or long, focus lens the entire picture will be shortened or lengthened almost uniformly, and with short distance, or wide-angle lens, the sky portion may be heightened, while the foreground is kept normal or even reduced. The short-distance arrangement is more effective in rendering converging lines parallel, and long distance between negative and image will change the height, but have little effect on the parallelism of lines.

PHOTOGRAPHY AND THOUGHT.

Illustrated by the work of MR. J. WESLEY ALLISON, Philadelphia.

J. W. Allison, Photographer.

THE BEACH, AT ATLANTIC CITY.

On the 24th of last October Mr. G. A. Storey, A.R.A., read a paper to the members of the Camera Club, London, on "Photography from an Artist's Point of View—Its Use and Abuse." The conclusion of the distinguished lecturer was that "Photography is not art, but rather a sort of trinity comprised of Nature, Science, and Art too." (Somewhat after the composition of the man's dog which "was part setter, part yellow, and part dog.") Mr. Storey exhibited a number of photographic pictures, and projected them upon the screen with a magic lantern.

J. Wesley Allison, Photographer.
"SHOOTING THE CHUTE"—ATLANTIC CITY. FROM THE TOP.

Among other things he said: "Photography was a copy, but art was invention. Art was not only the invention of the human brain, but the work of human hands guided by intelligence—by intelligence which was, perhaps, frequently aroused by feeling that was earnest and often capricious, and by taste which was

J. Wesley Allison, Photographer.
"SHOOTING THE CHUTE"—ATLANTIC CITY. THE BOAT JUMPING.

J. Wesley Allison, Photographer.

"SHOOTING THE CHUTE"—ATLANTIC CITY. GENERAL VIEW.

not always good taste, so that art with all its shortcomings and imperfections was still invention, it was still a labor of love; it sprang from the heart, and enlisted our sympathies because it was human." . . . As to suggestiveness and imagination, particularly on the latter point, he said that "The ordinary run of photographs were unsatisfactory from an artist's point of view, as nothing was left out, nothing was suggested, nothing was left to the imagination, and they were so full of minute details that a strong magnifying power was required to examine them. The camera took things as they were. When these were selected with taste and judgment, beautiful results were obtained; but the attainment of the beautiful results took time, and then came in the circumstance that it did not pay."

Of course, we cannot take sides entirely with Mr. Storey, and shall endeavor in what follows to maintain that it is possible to produce photographs which are works of art. When we say this we do not mean that it is possible for all photographs to be works of art; and far from us would it be to say that all paintings are works of art. Certainly we maintain that it is correct to say that photographs, as well as paintings, may be works of art.

We have made a selection from a package of photographs to illustrate our side, part of the results of the past summer's photography made by our esteemed amateur friend, Mr. J. Wesley Allison, of Philadelphia. For the same end we make quotations from a letter which came with the pictures to prove, further, that these pictures are not only "the invention of the human brain," but "the work of human hands, guided by intelligence," and by feeling that was started by invention. We believe our critical friends will agree that Mr. Allison's heart was involved in the production of his work, and that he resorted to that good old-time subterfuge, namely, thinking, when he made his pictures.

A good portion of his summer's work was

made at Atlantic City, N. J. Some of it is among the results before us, in the form of an album called *Atlantic City Sands*. It begins with a bird's-eye view of that noted summer and winter resort; this is followed by water views; street views; bathing scenes; beach panoramas; yachts under sail; and what not—a great variety. From this collection we present one of the beach views; and, as his preference, three views, embracing a series called "Shooting the Chute." A sort of marine toboggan is the favorite amusement at Atlantic City. It is well explained by the three engravings.

Three other pictures are called "Under the Shadow of the Bridge," "An Autumn Morning," and "Contentment;" these are accompanied by some views of yachts, including the champion, "John E. Mehrer."

"The 'chute' pictures were made," says Mr. Allison, "with my Ross-Goerz lens in $\frac{1}{200}$th of a second; and, excepting the pictures I made at 'Buffalo Bill's Wild West Show,' they are the quickest I have ever worked.

"In the photograph of 'Under the Shadows of the Old Bridge,' I have endeavored to work up artistic feeling. A companion picture, which I also send, I call 'An Autumn Morning.' The grazing cows which you see in the latter, having been milked and having been to the stream for a drink, are peacefully clipping the dew-sponged grass. The farmer's little cottage you see looks very snug all tucked away among the trees, with the front only exposed to the south. The bridge picture shows the stream where the cows have quenched their thirst, near where, in the hot days, they must have enjoyed standing in the water; and lying under the grand old willows which line the banks near the old bridge; or sometimes they have chewed their cud under the big black shadow cast

J. W. Allison, Photographer.

UNDER THE SHADOW OF THE OLD BRIDGE.

by it. All I needed to complete my picture was a boat to moor near the bank in the shadow, but I could not find one.

"These two pictures were made with an A. 16 Goerz lens $\frac{1}{25}$ sec. stop *f*/22. I endeavored to convey my best thoughts in these pictures, and I trust I have had success in your eyes.

"The 'chute' pictures selected for this I need not explain, nor my motive for making them."

We close our remarks with a few suggestions from the last part of Mr. Allison's letter. He makes a suggestion which is well worth considering. He writes:

"Now that trolley roads are so numerous and so accessible in the neighborhood of our larger cities, we may jump on a car, at our door almost, and in a little time be carried out into the beautiful country in all directions. Hence there is no excuse for the complaint that there is a want of

J. W. Allison, Photographer.

CONTENTMENT.

Surely we must accord to Mr. Allison the honor of possessing the true artistic feeling. We need not quote further from his interesting letter to prove that he is both a photographic thinker and a thinking photographer; and that his works may well be considered as works of art.

His "Contentment" shows that he is gifted with a rare fund of humor, too, and it evidences as much imagination and feeling as the composition of any painter —except an impressionist.

food for the camera, for it exists everywhere and in endless variety. The deserted mills here and the rolling hills there, with no end of willow-lined streams plenty, are just the things many amateurs go miles from home to secure. It was while riding along the line of the Media and Philadelphia trolley road that I saw the two pictures I have just described.

"Presently I will send you a later-made view, which I call 'October.' I consider it the best negative I have ever made."

It is impossible for us to give more examples of Mr. Allison's work now, but those who desire to study him further can, by sending him twenty-five cents, receive a copy of *Atlantic City Sands.* (This is the mere cost of publication, and hardly that.) Mr. Allison does this at our desire. His address is No. 2018 North Broad Street, Philadelphia.

We trust this dissertation will create more thought and help make more art photographers.

PHOTOGRAPHERS: OLD AND NEW.

MONS. C. KLARY.
(Electric-light portrait.)

AMONG the veteran photographers of France there is none more widely known and esteemed by his co-workers than our old friend and subscriber, Mons. C. Klary, of Paris, whose portrait appears herewith. Having first seen the light at Nancy, in 1837, Mons. Klary is by birth a Frenchman, but by nature a cosmopolitan with a large share of the American in his character, as is shown by the energy and the enthusiastic vitality of his career.

In 1860 Mons. Klary was attached as an operator to the telegraphic department of the French Army, and spent some years in that occupation at Algiers, where as an amateur his attention was first drawn to photography. Resigning his appointment in the army in 1863 he returned to Paris and there and in London took up the serious study of photography as a profession. On the completion of his training in 1865, he returned to Algiers and founded there an extensive photographic establishment. About this time began our pleasant correspondence with him, which has continued to date.

In 1874 he published a manual of photographic manipulation, in which he first made known in Europe the use of a head-screen in studio portraiture, referred to at page 118 of *Quarter Century in Photography.* Mons. Klary's manual has been translated into several languages and brought its author his earliest fame in the photographic world.

Returning to Paris in 1879, he built a studio remarkable at that time for its size and completeness of equipment, and during the few years following he busied his camera and pen with equal industry.

In 1884 Mons. Klary's restless ambition brought him to New York, and he studied American photography for some time in the studio of Mr. W. Kurtz. Then Paris claimed him again, and returning there he took up the work with which he is still identified—the direction of a portrait studio and School of Practical Photography—in which he has enjoyed great success, instructing professional as well as amateur workers. During the last few

years he has devoted special attention to the use of artificial light in photography. He is pre-eminently an artist, and his work shows it. In a recent letter he writes: "All my life I have been a hard worker, although keeping aloof from anything that would seem to be a matter of self-glorification. I have devoted myself chiefly to photography as an art, and, although it has given me many cares and disappointments, I love it as much now as in the early days. *Ars longa, vita brevis*, however, and I have thought it well to make known my experience and methods. For this I have created this School of Practical Photography, the only one of its kind existing in France. Success has followed my efforts and it is a pleasure."

A MODEL CATALOGUE.

Van Loo & Trost, Toledo, Ohio.

"THE SISTERS," specimen engraving from *Mosaics* prize picture, 1896.

THE Photochromotype Engraving Co., 723 Sansom Street, Philadelphia, has favored us with a very beautiful catalogue, illustrated by examples of the work done by various reproductive processes. Half-tone, half-tone with wood-cut tooling, intaglio half-tone, and three-color half-tone printing blocks of the finest quality are made by this company. In every department the effort to excel is conscientiously made, and this effort is proven by their productions. They have grown by development and not by inflation.

We have used a number of their engravings in our pages. Among them we may refer to the pictures by Mrs. Somers in our December number; and to Mr. Stein's "Intermission"; to the "Gloria in Excelsis" of Mr. Jansen and to Mr. Rösch's "Suggestions," page 23 of our present number.

Mosaics, 1896, contains about twenty of their best half-tones from the photographs of the prize-takers; one of these we present above. The splendid catalogue to which we have alluded will be mailed by the Company on receipt of one dollar.

Louis F. Jansen. *Buffalo, N. Y.*

GLORIA IN EXCELSIS

Accompanying WILSON'S PHOTOGRAPHIC MAGAZINE, *January*, 1896.

PRACTICAL PHOTO-ENGRAVING.

A SERIES OF LESSONS.

BY A. C. AUSTIN,
A. C. Austin Engraving Co., Albany, N. Y

(Continued from page 562.)

X.

THE last article gave full and explicit directions for the compounding and use of the adamantine solution, and, therefore, the only remaining thing in the process is the printing and etching of the plate. After having coated the plate in the proper manner as described, it is placed in contact with the negative and firmly screwed down, and, if it is possible, exposed to the direct rays of the sun. The only way to properly arrive at the exposure is to use an exposure meter. This little instrument can be obtained at all photographic supply-houses. If not, the operator can easily manufacture one out of a few pieces of wood and a strip of glass, the idea being that a piece of sensitive paper, preferably aristo seconds, is put behind the glass upon which tissue paper has been placed, varying in thickness like unto a pair of steps, and upon each step is placed a number with black ink. It will be found upon testing this in the sunlight that the first number will print through and appear upon the sensitive paper very quickly, while the second and consecutive numbers will take relatively longer, according to the thickness of the tissue which intervenes. The only way to become thoroughly acquainted with this means of testing the exposure is to experiment with a few plates. One cannot tell exactly what number should appear on the meter to correspond to a proper printing density of the negative without some little experience. With the meter that is used in our establishment we generally find that one good strong tint, and just the faintest appearance of the second figure, is the proper printing density for such negatives as we make. There is a difference with operators, however, and some negatives may require long exposure and *vice versa*. At the expiration of the exposure the copper plate is placed face upward in a developing dish wherein is contained a supply of lukewarm water. The tray is rocked for a few minutes, and by looking closely the operator can see that the soluble portion of the film is being dissolved away. This is only a matter of a few moments, after which the plate is rinsed thoroughly under the tap. It is now flowed with alcohol two or three times to remove all surplus water and to coagulate the film, and is then allowed to dry spontaneously. In case of great hurry it can be dried by heat, but in our experience we think it is better to set the plate in the light and let it dry itself. We think that the light has a certain hardening action upon the film; we are sure it does it no harm. The next in order is the burning-in, really the most important part of the whole operation, for hereon depends the proper holding of the resist during the etching. If it is not burned enough, it will surely blister; if burned too much, it will certainly rub off like powder, but if burned just right, it seems wellnigh impossible to remove it from the plate without grinding it off. In fact, we have plates in our posses-

sion that have been on the press certainly six or eight times, have had many thousand impressions taken from them, and yet the coating seems intact. After the burning of the plate the next in order, of course, is the coating of the back for protection during the etching. Our operators seem to prefer a solution of shellac, others prefer asphaltum varnish. It makes no especial difference what is used for the back, anything that will resist the action of the iron serves the purpose. The iron solution is purchased by us from the chemical company in carboys. The hydrometer test of this solution is about eighty, and it is used full strength. The copper-plate is put into the tray and allowed to remain quietly for perhaps ten or fifteen minutes, depending much upon the subject and upon the nature of the negative. Sometimes the plate is not left more than five or eight minutes, when it is taken out and proven. The operator then decides that certain parts of the picture have been etched far enough. These parts are then painted out with asphaltum, carefully following the outlines of the image, and the plate is put back into the solution for further etching. Occasionally this operation is repeated several times, and thus an inferior subject is very materially improved. Suppose, for instance, that a photograph is given for reproduction in which the sky is very dark, and the whole photo is rather flat. By resorting to this fine etching it is possible to get the sky very light indeed, while still retaining all the values in the foreground. Much of the success of the half-tone depends upon the etcher, for it makes no difference how good the negative may be, the result can be easily spoiled by over-printing or under-printing and by over-etching or under-etching.

The etcher should be somewhat of an artist as well as the photographer. In the writer's opinion the only true way to successfully manufacture half-tones is for the several parts to be done by several men who are specialists in their own line. It does not seem possible that one man can so successfully master each and every intricate detail that is connected with this business that he can compare with any individual who devotes his whole time and attention to one particular branch. It is well for all who are engaged in this business to have a knowledge of its every part, so that they can take hold of anything that requires their assistance; but the specialist will certainly be the better man, and the firm which employs the corps of specialists will turn out the most successful average work.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

TECHNICALLY speaking, practice and theory imply a common ground of relation. Practice develops theory; theoretical discussion should tend to perfect practice.

As we sit by the easel of the expert oil painter or aquarelliest, and observe the dash and daring of his handling, his art seemingly unguided, yet the growth of beauty in his picture so steady as to seem marvellous, we are filled with wonder, and deceived by the ease of execution. But this skill so fascinating has been acquired only by long experience with certain rules and principles, and these, though perhaps not formulated, guide and direct his brush. Space will not admit of a comparison in this article of the various theories of color.

We begin with that of a well-known author and colorist, which has stood the test of time and is now used by many workers, although the expensive volume

published by him, being colored by hand, has long been out of print.

As in the "Soap Bubble" article printed recently in this MAGAZINE, Newton will again claim our attention with the philosophic use of a toy, known to the people as the "Fool's Paradise," but which became in the hands of the thoughtful philosopher one of the mighty instruments of science, which, while exhibiting the wonders and the beauties of light, unfolds the mystery of their union and separation.

As color-printing is our theme, it is the *separation* that will be considered in this paper. In previous papers the *union* of colors has been discussed, that is, the mixture of such upon the ink slab or the palette, so now we go further and study the behavior of certain colors when blended in the retina of the eye, that is, optically mixed when displayed separately.

Colors may be classed under three scales:

1st. The reduced scale, secured by mixing the normal color with white for a tint.

2d. The darkened scale, secured by mixing the normal color with black for a shade.

3d. The dulled scale, secured by mixing the normal color with both white and black for a gray, and known as hues.

Now this gray and its proper distribution is all important in any artistic creation, and it cannot be ignored with safety.

The dulled scale is that chosen by the masters of art; it gives the wearied eye repose. In it the tertiary colors unite to neutralize one another to form the all-pervading gray. A great painter, when asked by a pupil how to paint a white cat, replied scornfully, "There is no such thing as a white cat; what you call a white cat is a gray cat; look for yourself, and see how it should be painted."

Now hues include all colors in which primary colors are so mixed as to form in other proportion than those needed for secondary colors. Thus: Reddish-gray and violet-gray are tertiary hues. So much in explanation of what is to follow when our graphic chart is completed.

We have three optical powers: The lens, to transmit light. The speculum, to reflect light. The prism, to refract light.

It is the last named that we will attempt to consider in this paper, as it is by its means that light is analyzed.

The student who has access to the laboratory will find that the prism shows three primary colors. Is it not remarkable how things arrange themselves in triplets? By primary colors we mean such colors as are capable, when suitably combined, of yielding all other colors.

We will assume such to be red, yellow, and blue.

RED is not so vivid as yellow and is less luminous than yellow, but it will occupy a more prominent place in our chart. The best idea is gotten from the red band in the spectrum of a burning lithium salt.

YELLOW. The most luminous of all colors. It occupies distinctly the brightest spot in the solar spectrum.

BLUE. The least vivid of the primary colors. It is cool and retiring.

It is difficult to point out any pure blue pigment. A tint of ultramarine is perhaps best for our purpose, but its spectrum reveals several other colors besides blue. Cobalt blue reflects much green and violet light, and when mixed for violet it gives a much grayer result than one would look for. A blue midway between ultramarine and cobalt should be chosen, as Prussian blue and indigo have no place in our scheme. These three primary colors are known in chromatic lore as colors of the first order or "positive colors," as distinguished from black and white and the grays which are known as neutral or "negative colors." The compound colors are called "broken colors."

It is found that the finest and most natural effects are to be secured when the worker

obeys chromatic laws. What is the aim? To produce upon the paper a certain unnatural effect by superimposed colors, or to use such colors as will produce a marked and natural effect upon the retina of the eye, being there blended by visual action.

Chevreul teaches that pigments mechanically mixed upon the palette and then placed upon canvas produce a false effect upon the eye, when compared with the proper pigments placed unmixed side by side and viewed in such a manner that the eye itself shall superimpose them. In other words, the optical mixture of pigments in the normal eye produces effects differing greatly from those secured upon the palette with the same pigments mixed mechanically.

Place a disk of yellow and blue paper side by side. The yellow inclines to red and the blue to violet. Now there is a class of artist painters who do not mix upon the palette, but place small, crisp touches of color upon canvas so skilfully arranged that when properly viewed they will blend in the eye, and this point of view must always be at a distance. It need hardly be said that it requires a highly artistic nature to do this correctly, and it need hardly be said that people of artistic taste view pictures or efforts rather of superimposed color slightly askance, and for the above very good reasons.

We will now adopt the graphic method for our chromatic chart. It is to be taken for granted that every process worker has become familiar enough with geometrical drawing and the proper use of T-square, compass, and angles to understand technical terms, and is able to describe squares, circles, triangles, and ellipses acceptably.

It is taken for granted, further, that the student is eager to become proficient in ideal coloring to that extent that he too may embody upon the retina of the eye his poetical conception of color as the painter is accustomed to do upon the canvas. That there is a poetical conception of color will not be denied.

The painter-poet Shakespeare has enriched his pages with many allusions that prove this.

The great genius evinces fine discrimination when he speaks in "Cymbeline:"

> Thou shalt not lack, pale primrose,
> The flower that's like thy face,
> Nor the azured harebell, like thy veins.

Again in "As You Like It:"

> There was a pretty redness in his lips,
> A little riper and more lusty red,
> Than that mixed in his cheek; 'twas just the difference
> Betwixt constant red and mingled damask.

Let anyone try to define these colors visually, and it will dawn upon the mind how fine the color sense is thus displayed.

The materials for the study of chromatics optically blended are few and inexpensive. Procure a piece of Whatman's "Not" water-color paper of heavy weight. Roughen the surface with a bit of sandpaper until a slight fluff is secured somewhat like the texture of ingrain wall paper.

The piece should be about 10 x 15 inches in size. Describe a circle 9 inches in diameter with the compasses, and divide it into four equal spaces by an upright or vertical line crossed at right angles by a horizontal line running exactly through the centre of the perpendicular line. Divide each of the four quarters of the circle into three equal parts. The circle now should present the appearance of a plan of a carriage wheel, with the twelve spokes radiating at equal distances from the hub or centre to the rim or circumference.

Procure some "half-hard" pastels.

Select from the gradated reds shown, not a vermilion, it is too yellow; nor a crimson lake, as it is too blue; but a red midway vermilion and crimson lake.

Select a yellow pastel, not lemon-yellow,

it is too greenish; nor yet cadmium, it is too red; but a medium color as near sunlight as you can judge.

Select a blue between ultramarine and cobalt, a grayish blue.

Now begin and number the spaces from top toward the left around to twelve. The space at top to right of vertical line No. 1, the space to left of the upright line No. 2, and so on around the circumference to No. 12, which lies adjacent to No. 1 on the right.

Now fill space No. 1 with solid red, gently blended with the little finger. Fill space No. 5 with solid yellow, also blended. Fill space No. 9 solid blue, blended.

Spaces Nos. 1, 5, and 9 now show the primary or positive colors.

Will you now rule the space 12, at right of No. 1, with red lines running from centre, say $\frac{1}{16}$ inch apart, carefully.

Will you also rule space No. 2, at left of red No. 1, with lines $\frac{1}{16}$ inch apart in red. Rule space No. 4 with yellow lines $\frac{1}{16}$ inch apart. Space No. 6, also yellow lines. Space No. 8 with blue lines. Space No. 10 with blue lines. Space No. 11 with blue lines. Space No. 3 with yellow lines, and follow with red lines to fill the unoccupied portions, say $\frac{1}{8}$ inch apart for orange. Space No. 11 with red lines $\frac{1}{8}$ inch to fill spaces left when blue was ruled for purple. Space 12 rule with a stump of paper rubbed in a powder mixed from red and blue rubbed together. Space No. 2 rule with stump rubbed in powdered red and yellow mixed. Space No. 7 rule with blue lines and follow with yellow or green. Space No. 6 rule with stump in powdered blue and yellow or green. Space No. 4 rule with stump rubbed in powdered red and yellow.

Résumé.—If carefully done, we now have our positive colors: Red in No. 1; blue, No. 9; yellow, No. 5.

Our secondary colors are now in spaces No. 3, orange; No. 11, purple; No. 7, green.

In No. 2 we have a reddish orange.

In No. 4 we have an orange-yellow.

In No. 6 we have a yellow-green.

In No. 8 a blue-green.

In No. 10 a blue-violet.

In No. 12 a red-violet.

Now these results must be preserved for future use. Upon your color-sense will depend the correct gradations secured. The object is to train the eye and to produce a color chart which can be used for reference when we come to make further research in the boundless field of color.

Held at the proper distance the secondary colors should now mix optically in the eye.

Under the circle rule three rectangles equidistant to fill the sheet, say 2 inches wide each and 3 inches long.

No. 1 rule with stump rubbed in orange powder made from red and yellow, lines $\frac{1}{8}$ inch apart and horizontal.

No. 2 also rule with orange.

No. 3 rule with green powder made from blue and yellow. No. 2 rule with same green, filling spaces between orange lines. No. 3 finish with purple made from blue and red. No. 1 finish with green as used in No. 3.

Now you wish for the dulled or the tertiary colors optically mixed.

In No. 1 space orange and green for citrine.

In No. 2 space orange and purple for russet.

In No. 3 space green and purple for slate or gray.

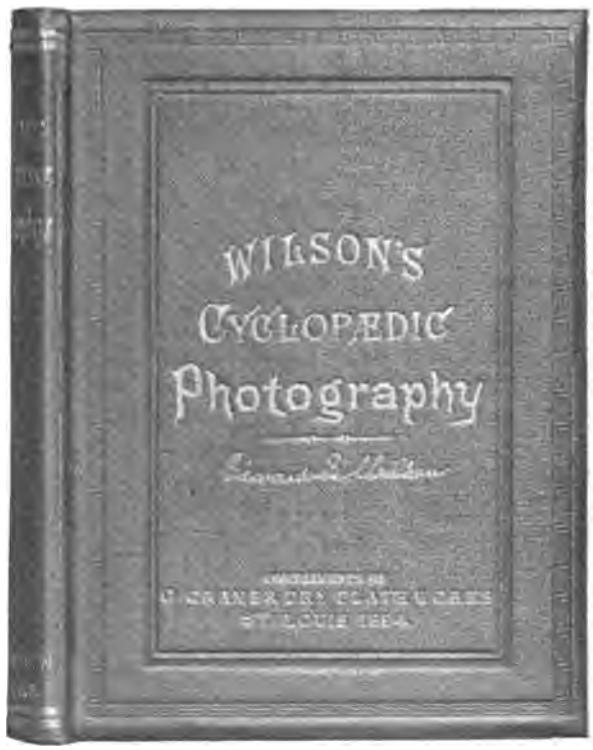
These are very useful dulled or gray colors pictorially and decoratively. Other dulled colors are buff, made by adding red to a yellow citrine. It can hardly be spared from any landscape scheme. Plum color for shadows and accents, made by mixing blue in russet color. Sage for foliage and mid-distance, made by mixing

yellow with slate, can hardly be spared. These recuperate the eye and enable one to use the bright crude colors sparingly, thus giving the most pleasurable sensations.

I predict that an enlightened taste will relegate the three-color creations to the limbo forgetfulness ere long, and that we shall have schemes of five and seven colors instead. Buff and gray must be used for softness and harmony. Later we will use our chromatic chart for further chromatic study.

WILSON'S CYCLOPÆDIC PHOTOGRAPHY.

Now the holiday business is over and the back orders will soon be filled, our studio patrons will have time to read, and that we may take time by the forelock, we push to their attention once more *Wilson's Cyclopædic Photography* as the very best hand-book there is for the working photographer. It will be remembered that when this work was first issued, about a year ago, Mr. G. Cramer, the veteran dry plate maker, purchased 500 copies for presentation to his patrons. Soon after this an order came from London from Messrs. Dawbarn & Ward, the leading publishers, for 1000 copies. Since then the work has continued to boom. At the time it was published there were two or three other cyclopædias announced, but as yet none have appeared. There was apparently no use for them.



FAC-SIMILE OF COVER, WITH PRESENTATION STAMP, USED ON FIVE HUNDRED COPIES PURCHASED BY G. CRAMER (FIRST EDITION).

What has been said by some of our esteemed coworkers will be found below.

See the article on club rates.

I have devoted some days to a survey of your *Cyclopædic Photography*. The book is exceptionally strong in chemistry, and many articles are worth more than the price of the book. Errors in formula, so frequent in many photographic books, are here avoided. . . . . One needs no other book to pursue photography successfully.—C. ASHLEIGH SNOW.

Condensed into concise paragraphs with great care, and arranged systematically for ready reference.—PHOTO-AMERICAN, New York.

No one who wishes to be thorough can afford to be without such a standard work.—THE PHOTOGRAM, London.

Without doubt the book of the year. As a book of reference it is invaluable, and we cannot too strongly urge its being in the hands of every photographer. In the wealth of formulæ and practical everyday working-processes it may be likened to a hundred year books boiled down into one volume. —CANADIAN PHOTOGRAPHIC JOURNAL.

I consider *Wilson's Cyclopædic Photography* in-

valuable in the studio.—P. H. ROSE, Providence, R. I.

The most valuable work on photography which I have yet seen.—C. O. TOWLES, Frostburg, Md.

The best addition to our means of information that we could desire.—H. W. MINNS, New London, O.

I am happy in possessing a copy. "It fills a long felt want."—FERD. FLODIN, Worcester, Mass.

It has made its appearance at the right time. I am surprised at the amount of information it contains.—A. C. NOVESS, Mt. Clemens, Mich.

A necessary addition to every photographer's library.—W. F. VAN LOO, Toledo, Ohio.

A welcome addition to the library of every photographer. It should enjoy a large sale.—Ross & Co., Opticians, London, Eng.

It is a never-failing source of information. I consider it far and away the most useful photographic publication extant.—GEORGE B. SPERRY, Toledo, Ohio.

Without doubt the best photographic text-book published.—J. W. ALLISON, Philadelphia.

Wilson's Cyclopædic Photography is the best and most complete work on our art-science that we have ever seen. Every subject is hit plumply, without windy circumlocution. *It is a book which we earnestly recommend every photographer, amateur or professional, to own at once.*—Editor SNAP SHOT, New York.

We are much pleased with its appearance and valuable contents —WALPOLE CHEMICAL CO., Walpole, Mass.

CLUB RATES.

AS usual at the beginning of a new year, we present our offering to our readers of club rates. The principal object around which we make these reduced rates rotate is *Wilson's Cyclopædic Photography*, together with the new edition of *In Scripture Lands*. Concerning these advertisements will be found in proper place.

To every purchaser of the first book a copy of the second will be given, that is, the two books for the price of one, making the cost to the photographer $4.00 instead of $5.50. In other words, a copy of *In Scripture Lands* will be given to every purchaser of *Wilson's Cyclopædic Photography*.

The parcel will be sent by express at the purchaser's cost and risk. In every such express parcel we expect also to send free a number of specimens of photography by some of our best artists. Other club offer will be found below and in the advertisements.

In making these special offers it is understood that the orders must come to us direct. We cannot afford a profit to the middlemen and a discount to the photographer too. Nor can we give the free photographs through a dealer. The offer will hold good only through the month of January.

Those who renew subscriptions for 1896, and remit $4 00 more, will be presented with additional pictures in the parcel, thus:

Wilson's Photographic Magazine . . .	$3.00
Wilson's Cyclopædic Photography . . .	4.00
Wilson's In Scripture Lands (New Ed.) .	1.50
	$8.50

All for $7.00.

Circulars supplied on application.

OUR PICTURES.

THE pictures which embellish our current number are productions of the work of various artists, reproduced by a variety of processes, and the result of a number of enterprises. Altogether they make an interesting series.

The first, "The Daughter of the Pacific," comes from the studio of Mr. F. G. Schumacher, Los Angeles, Cal. It is a beautiful example of photographic art. It speaks volumes not only for the talent of the artist, but for the beauty and grace

of the ladies of our western coast. Last year we reproduced several works of Mr. Schumacher, and gave a sketch of his interesting photographic career and of his rapid but steady rise in our art. We are pleased to begin the new year with so charming an exhibit of his work under the skylight. As will be seen, the prints were made by the phototype process of the F. Gutekunst Company, Philadelphia, Pa. Certainly nothing more perfect of this kind of rapid photographic reproduction could hardly be expected.

We propose, during the coming year, to continue our plan adopted during the whole of last year of supplying a monthly inset, or "Mosaics," composed of various studies in light and pose, by one or another of our skilled photographers. This time we depart from the usual method, and present a "Model Display," arranged by our talented friend and the prize-taker, Mr. J. Ed. Rösch, St. Louis. By this means we not only have lovely suggestions of light and pose, but another as to the tasteful arrangement of specimen photographs for display in the studio, thus giving our readers a study useful in more ways than usual. It will give zest to the enjoyment and profit to be derived from the article by Mr. Rösch, which appears on another page. His work had good representation in a recent number of our MAGAZINE, together with a sketch of him.

Following is a sweet picture, entitled "Gloria In Excelsis," a very appropriate one for the beginning of the new year. The half-tone reproduction is by the Photo-Chromotype Engraving Company of Philadelphia, and is from a negative by Mr. Louis Jansen, 289 Genesee Street, Buffalo, N. Y. The little subject who has served as the model is Master Louis E. Jansen, the six-year old son of Mr. Jansen. The picture was made on a Hammer plate, exposure six seconds. To both father and son we are indebted for their kindness in supplying us with such an interesting embellishment.

Added to these are the various useful illustrations which appear in our articles, supplying as we trust a valuable and liberal series to our expectant subscribers.

During the following months our readers may expect some very beautiful examples of photographic progress—studies of the finest quality and greatest interest from studios at home and abroad. Extensive preparations have been made to this end. Without going into particulars, we announce that no magazine in the world shall excel us in this direction.

MAXIMS FROM *MOSAICS*, 1896.

THE greater part of the edition of *Mosaics*, 1896, is already fulfilling its mission of usefulness among the members of our craft. Many of them have written in praise of the pithy practical sayings scattered throughout the pages of the book. We give here, for the benefit of all, a few of these maxims, but those who would profit most should read the papers from which our extracts are taken.

"I have before me as I write some 'cartes' made by Loescher & Petsch, Berin, some twenty-five years ago or more. They are still beautiful. Their dark backgrounds and rich accessories remind me of some of the effects we are now working for. Are we going back to first principles. I think not. We are only holding fast to those that proved good."—GEORGE B. SPERRY.

"Whatever the inducements of photography may be from a purely business standpoint, it cannot be overlooked that very considerable preparation, coupled with natural tendency and adaptability, are necessary to artistic success, and this is the very foundation upon which financial

success must eventually rest."—G. S. BEARDSLEY.

"We all spend much money for advertising space in our local papers. Why not make it bring more business by putting in a good picture in line or half-tone of a subject which would make folks keep the advertisement for its attractiveness."—A. L. BOWERSOX.

"For the toning bath, I know of nothing better than a mixture of acetate of sodium, powdered borax, and gold: ten grains of acetate and twenty grains of borax to each estimated grain of gold, and water quantity sufficient. If needed, add more borax to make the bath distinctly alkaline."—W. H. SHERMAN.

"I do not believe in telling customers that there will be no charge for re-sittings, and I never practise it; my experience teaches me that the public do not value what they can get for nothing, nor respect the person that is willing to give without limit. We are valued according to the value at which we hold ourselves and our work."—B. L. H. DABBS.

"The average sitter knows or cares little about how a picture is lighted, or whether it be a work of art in posing; their one desire is to obtain a pleasing and life-like expression. And how are we to obtain this? It is true we cannot, as painters do, add this; but we can do much to assist our subjects to obtain it—by careful handling."—F. G. SCHUMACHER.

"It may be taken for granted that the degree of permanence of a silver print is in proportion to the quantity of gold present, whether it be deposited on the silver or substituted for it; and that the lasting of the purity of the whites is simply a question of having nothing in the toning bath that cannot be removed by the hypo and subsequent washing."—DR. JOHN NICOL.

"The photographer's best advertisement is the work that leaves his gallery and the pictures which are displayed in his street showcase. But it does not follow that other advertising is useless."—M. M. MUDGE.

"I want to suggest forcibly that it is better often to catch the suggestions offered by the subject in hand rather than to trust entirely to your art feeling. In the use of this last you must bend sometimes."—W. M. MORRISON.

"Photographers should select a city where there is room for them to open business; take great care with all work ordered; require one-half the price in advance, unless the sitter has a commercial rating, in which case it can be collected by law."—F. M. SOMERS.

"If we all work on this (the European) plan, we will soon educate the public to the fact that, as in other professions, the photographer is entitled to remuneration for his efforts. Adopt the plan. You will never regret it."—W. F. VAN LOO.

"Make good work, preserving the likeness, and the picture will give satisfaction and pleasure. Securing a pleasing likeness is a big point in making pictures to sell and building a business."—D. D. SPELLMAN.

ASIDE from the standard of success in photography, good work, there is nothing of more vital importance than the display of this good work.—F. FLODIN.

"Never in the history of photography have the possibilities of our art-science been brought so near to the hands of all who would grasp them as they are to-day. Enterprise and unflagging perseverance will win, as in years past. 'To the victor belongs the spoils.'"

The man who helps himself by such papers as *Mosaics* contains, and the beautiful pictures which the prize-takers have provided, will surely win his share of the spoils. *Mosaics*, in paper covers, will be sent to any address for fifty cents.

PRIZE-OFFERING BY THE FIRM OF VOIGTLANDER & SON.

For the purpose of securing a sample-collection of pictures, made with their lenses, the undersigned publish the following offer of prizes:

First Prize.

A photographic objective, made by above firm, and to be selected by the winner, of the value of 400 marks.

Second Prize.

A photographic objective, to be selected by the winner, of the value of 300 marks.

Third Prize.

A photographic objective, to be selected by the winner, of the value of 200 marks.

CONDITIONS.

1. Every competitor must, up to March 1, 1896, send to the undersigned address, in Brunswick, at least four pictures (on any printing paper he may prefer), with matter printed both on the mounts and added envelope. Besides this every picture must bear the information of what number and kind of Voigtlander objective was employed by the artist, and if possible what was the diaphragm, length of exposure, etc.

2. The pictures will be judged in the first place as to their technical perfection; in the second place as to their artistic merit.

3. Pictures already published by art-dealers are excluded from competition.

4. The first two prizes are for pictures larger than 18 × 24 cm.

5. Every prize-winner cedes to Voigtlander & Son the right of publishing the winning pictures. Furthermore, the undersigned firm is to be privileged to buy any or all the pictures, the copyright at mutual agreement prices, single copies at the following fixed prices:

Whole sheet size . .	10	marks
Quart. sheet size . .	8	"
Boudoir	4.50	"
Cabinet	2.50	"

The jury will consist of a member of the firm Voigtlander & Son and a well-known portrait photographer whose name will be published in due time. The awards of the prizes and names of the winners will be given, at the latest, on March 8, 1896.

VOIGTLANDER & SON,
Opticians,
Brunswick, Germany.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XII. THINGS WHICH SHOULD HAVE EARLY ATTENTION.

One does not need to be a prophet to foretell that 1896 is to be a good business year for photographers. The revival is already well begun, and from every section (where there is a progressive photographer) comes the cheering report that trade and prices are in a more satisfactory condition than for some years past. The man whose trade does not yet show this awakening should therefore give prompt attention to his work and methods of doing business, to find out whether the fault lies with himself, or comes from a local, removable trouble. During the panicky times from which at last we have emerged many photographers have fallen behind in the quality of their work or in their business methods. The trade of such studios must necessarily be the last to feel betterment. Now, however, there is no justification for pessimism, and wide-awake workers are again confident that earnestness in business will bring its wonted reward. It is a time to paste "Excelsior" on the ground-glass of the

studio camera, and to be up and doing. Above all else, it is the time to *advertise*.

Advertise! There you have one of the keys to success in 1896. A fact which realized is worth a hundred times the cost of this MAGAZINE for the whole year. Success has other keys, of course; but this is sufficient for the present moment. What does business most need? Animation! Life! And what is advertising but the very life and soul of business? Put advertising into your business methods of 1896. If you do it wisely and persistently, you will thank me for the hint before the year is ended.

Papers dealing with the photographer's advertising have already been given in this series.[1] They referred to general methods, and I do not intend to repeat what has been written. Since those papers appeared, however, I have by personal investigation found out that there is one method of advertising which is more certain and profitable in results than any other, and about that in particular I want to say a few words here. It is the use of the "Booklet" method. By the right use of the right sort of booklet advertising the photographer in any town of over 20,000 inhabitants can induce new business and increase the results hitherto obtained from his regular patronage.

I suppose every photographer knows what is meant by an advertising booklet. Certainly it is something with which he should be familiar. The *Climax* and *Annual* booklets issued by Messrs. E. & H. T. Anthony & Co. are excellent examples of the up-to-date advertising booklet. Get a copy, study its make-up, and think how such a book specially prepared for your studio and facilities could be applied in your business as a persuader. Naturally a photographer's booklet will differ from either of these examples. It should be illustrated, more interesting, and more artistic in its make-up. There should be more of the literary quality about it, and the illustrations should be such as to give it pictorial value. Stein, Rockwood, Prince, Sperry, and others have made use of booklets, each of which is a model in its way; but these the photographer will have difficulty in obtaining. A well-constructed booklet concerning any business will, however, be sufficient to enable the photographer to prepare one for himself.

A few hints regarding the make-up of a booklet may be useful. Briefly, a booklet is simply a little book of convenient size and few pages, presenting an amount of interesting information about the business of the advertiser, illustrated with pictures of the things referred to, daintily printed and sufficiently attractive to make its preservation desirable.

For use in photography as a business, the reading-matter of the booklet should refer in general to the advantages of photography and afterward in detail to the facilities, work, and departments of the studio it is intended to advertise. The illustrations should be chosen to emphasize the points referred to in the text or simply to add attractiveness. The preparation of the contents being finished, the size of the book must be decided. If intended for mailing in the ordinary business envelope with correspondence, etc., 5½ x 3½ inches is most convenient. The number of pages and weight of paper should also be considered so that the booklet and a letter may be mailed together at the usual two-cent rate, or the booklet separately at the one-cent rate. If required as a souvenir for distribution at the studio or locally, 6½ x 4½ inches would be a desirable size, permitting of wider margins for text and illustrations and a more artistic setting of the matter. As a rule eight pages, with the four cover pages (twelve

[1] March and April, 1895, numbers of this MAGAZINE.

in all) will be found sufficient for the average studio. The paper must be chosen after the illustrations have been decided upon. For half-tone engravings, either on the inside pages or covers, "coated" or enamelled paper must be used. Where no illustrations are to appear on the covers these should preferably be of a thicker, rougher paper than the inside pages, and of an appropriate color. If an actual photograph is used for illustration, the covers should be of thin cardboard to permit of the mounting of the photograph without "cockling."

The type used should be easily readable, and compressed within a relatively small space on each page rather than scattered to cover the whole of the available space. Remarks to which special attention is to be drawn should be printed in a different ink to the body of the book. The title, paragraph headings, and initial letters may also be printed in a different color with added effectiveness. "Rules" and ornaments or borders should be chosen carefully and used sparingly, if at all. Where half-tone engravings are used they may be printed separately in inks to match the photographic tints, as warm brown for a silver or an aristo print, warm black for an aristo-platino, etc. If it is desired to use only one good picture as frontispiece for the book, an Albertype print in appropriate ink, from the photographer's own negative will be found effective. These closely resemble photographs, and the cost per print would be small if a quantity were ordered. Where actual photographs are desired for the illustration of a booklet, the process of the Automatic Photograph Company obviously offers many advantages.

As a matter of course, the first cost of an advertising booklet is greater than some other forms of advertising; the advantages and results accruing from its intelligent use are so much greater than those obtained by any other method that this should not be allowed to deter anyone from giving it a trial.

Summing up, I advise the use of the booklet because it has proved to be unequalled as an advertising method which brings results; because it is especially suitable for the use of the photographer; because its cost can be controlled without its value as a business persuader being lost; and because the volume of business it brings proves it to be, after all, an economical method of advertising or of putting life into a business.

I have often wondered of late why no one has yet put out a booklet illustrated with a three-color portrait. There are several engraving firms who could produce such a print from a finely colored portrait, and the cost would not be excessive if a reasonably large edition was ordered. Such a booklet would set folks to talking, be referred to until it fell to pieces, and would surely prove a profitable advertisement for the photographer who published it.

Another thing worth early attention is the carbon process. Unless the signs mislead, this process is to enjoy a boom during the year. To many photographers its revival offers a means toward reaching high-class trade and better prices. But it is not for all classes of work. For the multitude of folks the glossy or matt-surface aristo print will be a staple for years to come. In a number of studios all over the country, however, carbon prints are being introduced and find favor. The greatest difficulty of the process lies in the fact that either the negative must be reversed before printing, or the print must be reversed by double transfer after development. If this difficulty could be removed, the process would undoubtedly leap into popularity. The latest news from England tells of a method of carbon printing without transfer. But the method is more promis-

ing than practicable as far as portraiture in the small sizes is concerned. It consists essentially in rendering the paper support of the tissue translucent and printing the image through the paper. But the time of printing is much prolonged, and the use of a reversed negative is as necessary as in the old method. Those who desire to know all about carbon printing as at present practised will find an article on the subject and a bibliography at page 12 of *Mosaics*, 1896.

EDITOR'S TABLE.

The International Annual of Anthony's Photographic Bulletin, 1896, vol. viii. Edited by Frederick J. Harrison. 348 pp. Profusely illustrated, and containing an actual photograph as frontispiece. Price 90 cents, postfree, in paper covers. Cloth bound, postage paid, $1.40.

We congratulate Mr. HARRISON, as editor, and Messrs. E. & H. T. ANTHONY & Co., as publishers, upon this handsome and useful year-book. It is a distinct addition to the literature of photography, presenting many papers of incalculable benefit to beginners and experts, and a large number of fine half-tone engravings, besides a specimen print in colors, and a beautiful "Study of a Head" printed on Aristo-platino paper. It is a model year-book, indispensable to the progressive worker, and full of profit. A wonderful book for the money it costs. We understand that 6000 copies were sold before the book appeared. This indicates that the *International Annual* will have the success it deserves. We advise our readers to secure a copy and enjoy its treasures, literary and pictorial. Orders may be sent to the office of this MAGAZINE, full price and added postage accompanying the order in every case.

THE NORTHWESTERN PHOTOGRAPHERS' ASSOCIATION.—The second annual convention of this important Association will be held at Minneapolis, in February, 1896. Four hundred photographers have already signified their intention to attend the gathering, and the display of work promised will be one well worth a journey to see. Full particulars may be had on application to the Secretary, F. H. Lloyd, 375 Minnesota Street, St. Paul, Minn.

OUR old amateur friend, Mr. F. W. BOCK, for eight years engaged in the treasurer's office of the Jackson Sanitorium, at Dansville, N. Y., a distinguished amateur, has thrown aside all of his old affections and entered the University of Pennsylvania for the purpose of studying medicine. We are sure that no more apt and earnest disciple could enter the art medical and surgical. There is a good opportunity at the Sanitorium for some enterprising photographer to step right into Mr. BOCK'S photographic shoes at the Sanitorium. Particulars may be had by applying at this office.

MESSRS. Ross & Co., London, Eng., have just published a new edition of their catalogue of lenses, etc., giving particulars and illustrations of the New Series VII. and VII a ZEISS convertible anastigmats. Series VII. *f*/1.12 offers a rapid single lens for landscapes, large portraits, or groups. Series VII.a *f*/1.6 offers an anastigmatic symmetrical doublet composed of two lenses of Series VII., suited for portraits, groups, architecture, process work, and copying. The American agents for these new lenses is Mr. G. GENNERT, 24 E. Thirteenth Street, N. Y., from whom price-lists may be obtained.

The Commercial Traveller's Home Magazine, one of the brightest illustrated magazines of to-day, is published at Binghamton, N. Y., under the able editorship of WILLIAM MILL BUTLER, Esq. It is full of brightness and interest, and the literary character is first class. It is very readable and enjoyable. The December number contains an article, covering several pages, with its illustrations, by the editor of this MAGAZINE, on the subject of Wood-engraving and Process-engraving. Likewise a sketch and portrait of the same writer by Mr. BUTLER. Sample copies of this magazine may be had on receipt of 25 cents. Send to the publishers.

SATISFACTION.—One of the funniest half-tones we have seen in some time appears over the above title in the little brochure issued by Messrs. E. & H. T. ANTHONY & Co., advertising their 1896 volume of the *International Annual*. It is worth asking for.

A CHRISTMAS LETTER.—It seems to us this is worth publishing. It is from an old subscriber:

I wanted to write you quite a letter this time, but shall be compelled to wait till after Christmas. I have been building a new gallery, and I wanted to tell you about it, because I put in the light after the manner described by Mr. HELMOLD in the last February (I think) number of your MAGAZINE. I am more than pleased with it—will tell you about it as soon as I can get time to do so properly.

I am taking several of the magazines, but yours is the *standard* to me; the general tone seems above them all. When I sit down to read it I feel as though I were in good company and it gives me higher aspirations. Some of the others are good and I value them, but yours is like an old friend that I have tried and found true. It does not call other people hard names, and I have learned that I can put my faith in the information I obtain from it

I will try to give you a description of my new gallery soon. Yours truly,

C. C. LEWIS.

MONMOUTH, OREGON.

THE NATIONAL PHOTOGRAPHIC PAPER AND CHEMICAL CO. of Springfield, Mass., has been incorporated, and has about completed a brick mill of its own, which is, we learn, the most complete photographic plant in the world. It is fireproof. The company will manufacture five kinds of paper, and at the beginning of their business next month, we understand, will introduce something entirely new in matt-surface paper. Ample financial backing will prevent this new company from meeting the downfall which has followed the efforts of a number of printing-out paper manufacturers. We have arranged for bringing this company to the further notice of our readers through advertisement, examples of their work, and otherwise, beginning with our next number. Some special preparations which will pay and profit our readers are being made to this end.

OBITUARY.—By death from diabetes of Mr. WILLIAM SHAW, of Atlanta, Ga., which took place November 19th last, one of the most interesting links between the photography of the present and that of the past disappears. Mr. SHAW was a New Yorker by birth, but went West in his youth and began in photography as an ambrotyper, in a studio at the corner of Clark and Monroe Streets, Chicago, near old Fort Dearborn. Among the young men who made their rendezvous at the Shaw gallery was ELMER ELLSWORTH, the organizer of the famous Ellsworth Zouaves, who achieved fame in the War of the Rebellion. WILLIAM PINKERTON, the well-known detective, and other prominent Chicago business men of that period were members of this band.

Mr. SHAW sold his Clark Street gallery only two days before the beginning of the Chicago fire. During the progress of the fire he made a series of views, and many of Chicago's proudest citizens, ruined by the devastation of their property by fire, found a temporary means of livelihood in selling SHAW'S views to the crowds who came to see the ruins of the burned city.

Mr. SHAW was a prominent Mason and obtained much influence as a politician, consequently he soon amassed a fortune. This he invested in an orange grove in Florida, and subsequently lost in that venture. Returning to Chicago and resuming his practice of photography fortune again smiled upon his efforts, and enabled him to return to a second attempt at orange-culture in Florida—the Utopia of his dreams. Misfortune finally overtook him in the form of a severe attack of yellow fever which broke his strong constitution. Exposure during the great frost in that State two years ago completed his prostration. His last effort was the establishment at Atlanta, Ga., of a studio which is now prosperously managed by his sons.

HENRY J. NEWTON, another distinguished amateur photographer is dead. On Monday, December 23d, Mr. HENRY J. NEWTON, of this city, was struck by a cable car on Broadway near Twenty-second Street and so injured that he died in a few minutes. Mr. NEWTON was one of the most industrious and successful experimentalists, and to him photographers have for many years been indebted for many helpful suggestions. He was a frequent contributor to our MAGAZINE, and one of the most active members of the Photographic Branch of the American Institute. He was nearly seventy years of age.

THE PHOTOGENIC PAPER CO. of Albany, New York, has voluntarily dissolved, and its business is discontinued.

IT has been reported through some of the newspapers of the West that the "Wild Game" pictures noticed by us a short time ago, made by Mr. A. G. WALLIHAN, Lay, Colorado, were made from stuffed animals. It is hardly worth while to deny this, and yet we do so in justice to our talented friend. He is now away in the wild woods looking for mountain lions with his camera. It is true that in the book reviewed by us pictures of some stuffed animals were introduced; but their production is neither claimed by Mr. WALLIHAN nor credited to him.

THE *American Annual of Photography and Photographic Times Almanac* for 1896. Edited by WALTER E. WOODBURY. Published by the Photographic Times Publishing Association, 423 Broome St., New York. Paper covers, postage free, 92 cents. Cloth-bound, $1.45. Every year shows improvement in the make-up of this well-known annual, and the volume before us shows special advance in the quality of its illustrations. There are fifty full-page engravings, and almost two hundred pictures throughout the book. We felicitate Mr. WOODBURY upon his excellent work. The price of this annual is this year advanced from 50 cents to 75 cents (postage extra, 18 cents). It is a remarkable book for the money. Copies may be had from the office of this MAGAZINE as usual, on receipt of published price and extra postage required.

MESSRS. C. H. WALLS & Co., General Eastern agents for Kirkland's Lithum Paper, Chicago, have proven themselves equal to the demands of the workers for their paper, and announce a full line of photographic chemicals of the purest quality, such as are necessary for the best prints on their paper. A card list may be had on application.

TWO excellent studio helpers are shown in the new announcement of Messrs. J. H. SMITH & Co., Chicago, which appears in our present number. One of them is the Magic Camera Stand, a substantial stand at a very low price. It has all the latest improvements and some special features. The other helper is the new Globe Head Rest, the various movements of which are shown in the advertisement. The price of this specialty is within the means of all photographers.

FOR 1896.—A good printing paper for artistic matt-surface effects for the new year's trade will be found in *Platino-matt*, manufactured by Messrs. BRADFISCH & PIERCE, Bay Ridge, N. Y. The glace gelatine *Superior* and collodion *Perfection* papers made by this firm are also excellent for work where shine is desirable. A postal sent to Messrs. BRADFISCH & PIERCE will be promptly answered with information as to where fresh paper may be secured near to the correspondent's locality.

THE FLAMMANG CAMERA CO.—Mr. M. FLAMMANG, who for the past thirty years has been associated with the AMERICAN OPTICAL CO., of this city, has formed the above-mentioned new company for the manufacture of all kinds of camera holders, and appliances needed in photography. The FLAMMANG cameras have always had an enviable reputation for workmanship and reliability, and it is promised that these qualities will continue to be the distinguishing features of the goods manufactured by the new company. A novel photo-engraver's screen and plateholder is announced, of which our process readers should take note. Further details are promised for an early date. The address of the FLAMMANG CAMERA CO. is 182–186 West Houston Street, New York.

THE INDIANA ASSOCIATION OF PROGRESSIVE PHOTOGRAPHERS will hold its second annual convention at Indianapolis, March 4th, 5th, and 6th. The prize list contains thirteen classes, and a special feature is the class open to photographers in towns of less than five thousand inhabitants. We would strongly urge all Indiana photographers to support their State Association. Full particulars of the convention may be obtained from E. E. SHORES, Secretary, Vincennes, Ind.

SOUVENIRS.—For the illustration of advertising booklets and photographic souvenirs to be used as business persuaders, a good portrait printed by the Albertype process makes an attractive frontispiece. The cost of these prints, which can be had to closely resemble an actual photograph in any desired color, is comparatively small when a fairly large edition is ordered at one time. Specimens and full particulars may be had by addressing the ALBERTYPE CO., 15 Laight Street, New York. This well-known firm makes a specialty of view souvenirs, a branch of outdoor work in which there is profit for many photographers. Among the latest souvenirs of cities issued by the ALBERTYPE CO, albums of New York, Atlanta, and Sacramento, Cal., are notable for artistic value. For commercial sample books the work of the ALBERTYPE CO. is especially advantageous and should not be lost sight of.

KITE PHOTOGRAPHS.—The *New York World* of September 22, 1895, devotes almost a page to the description and illustration of kite photographs made by Prof. WILLIAM A. EDDY. The pictures are exceedingly wonderful and reveal a great deal of patience and ingenuity on the part of Prof. EDDY. We have his promise that presently we shall be favored with some photographs and an article for our MAGAZINE, when our readers will have opportunity to see some of the wonders of this new reach of photography.

NEW ROSS-ZEISS ANASTIGMATS.—Mr. G. GENNERT, 24 E. 13th St., N. Y., the agent for the well-known Ross Lenses, advises us of the addition to his stock of a consignment of the latest Ross-Zeiss Anastigmats, Series VII. and VIIa. A circular of particulars may be had on application to Mr. Gennert.

Photograms of 1895.—A pictorial and literary record of the pictures of the year, compiled by the editors and staff of the *Photogram*. Published by DAWBARN & WARD, London. For sale in America by W. P. BUCHANAN, Philadelphia. Price: Paper covers, 50 cents; cloth, $1.

We welcome the appearance of this new British annual, which, by reproducing some eighty pictures by prominent workers of many countries, and giving careful *critiques* of the pictures by capable writers, offers useful help to all engaged in picture-making by photography. The numerous engravings and pen and ink sketches throughout the book are good examples of process work, carefully printed, and the text abounds with suggestions of value alike to the beginner and the expert.

A VALUABLE monograph treating of the photography of rapidly moving bodies, flying bullets, etc., has been received; and will be mentioned more fully in a further issue. It is the production of First Lieutenant G. O. SQUIER, U. S. Artillery School, Fort Monroe, Va.

DR. HUGO SCHRŒDER, Whitstone House, Hestop Road, Balham, S. W. London, England, announces his intention to serve as optical expert, etc., to those who may need his services. It will be remembered that Dr. SCHRŒDER was once the head optician with Messrs. ROSS & Co., and in 1894 came to the services of the Manhattan Optical Company of New York. These facts guarantee his services as necessary, and we record our best wishes for his success.

Two very beautiful carbon prints have come to us from Mr. R. H. FURMAN, San Diego, Cal. One of these is a splendid portrait of our old friend, and the other of a lady. They are exquisitely perfect in every way, and speak highly for carbon as the most wondrous of all the printing methods.

What may be done with such prints in reproduction by half-tone we shall put to the test shortly by means of one of Mr. FURMAN'S pictures, and present the result to our readers.

FROM Mr. FRANKLIN A. NIMS, Denver, Colorado, we have received a series of splendid views of the Canyon of the Colorado. Mr. NIMS has recovered his health and makes a specialty of panoramic photographs, plain and colored. He is likewise engaged in half-tone engraving and zinc-etching. Some of his pictures, together with one of his articles, will appear in an early number of this MAGAZINE.

THE AUTOMATIC PHOTOGRAPHIC CO.'S prize offer of $25 for the first corrct solution of a printing puzzle, contained in our December, 1895, number, has attracted much attention, and many interesting letters have been received. The competition, if it may be so called, closes January 15th. The result will be announced in our February issue.

ONE of the great advantages of KIRKLAND'S Lithium Matt Paper is its fine surface for water-color work.

This feature has so far been a great drawback with other matt papers on account of the film repelling the color. The most beautiful effects are obtained on this paper by either Windser and Newton or the Acme colors.

To those who have never given colored work a trial we would suggest that they order a gross of Lithium matt and convince themselves of its beauty and advantages of working up a booming trade in colored work for the holidays.

THE CALENDAR OF BEAUTY, mentioned in our last issue, seems to meet with appreciation. During the past few weeks we have shipped orders to France, Wisconsin, Massachusetts, and Ohio. This *Calendar* is really as charming a New Year's souvenir as the photographer desires to present to his patrons. It is a marvel at its low price, for which the buyer gets not only a calendar for 1896, but twelve cabinet photographs of lovely women, from the studio of FALK, N. Y. As portrait studies alone, the twelve pictures are worth four times the price of the set.

ON or about January 1st, the SCOVILL & ADAMS Co. will remove from Broome Street to their new warehouse, 60 and 62 East Eleventh Street, five doors from Broadway. The new building is a seven story and basement, 42 feet front, 95 feet deep. It is furnished in every way after the modern places of construction, and is very complete with its executive office, salesrooms, skylight, and dark-room.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. [illegible]
[illegible] A. TENNANT, A[illegible]

VOL. XXXIII | FEBRUARY [illegible] | N[illegible]

ON THE GROUND-GLASS

A PALL hangs over *The Ground Glass* far deeper than any shadow which has ever before obscured it. Photography has lost one of its earliest friends; one of its most substantial supporters; one of its truest and best men. W. Irving Adams, President of the Scovill & Adams Company, of New York, died at his home, "Irvingcroft," Montclair, N. J., about five o'clock in the afternoon of the second day of the new year. This has a great calamity befallen us all, and we are all in mourning. His portrait appears in this number, and on other pages a few of his devoted friends pay affectionate tribute to his memory.

But few men may hope to win such glowing tribute to their memory.

It is true that notwithstanding this great shadow photography will continue to grow higher and wider year after year, and the great business of supplying the means employed by it will "continue just the same;" but there will not be "just the same" light in everything about us that we had when W. Irving Adams was with us—with his wisdom, his good-cheer, his loyalty, his enterprise, and his fellowship—when he was alive.

Some of the new subscribers and some of the older ones who either did not read the last July number ("A New Department" [illegible]

[illegible] The [illegible] master-[illegible] is against [illegible] We quote [illegible]

"Photo[illegible] to printed [illegible] to the original [illegible] which reads [illegible] writing, print, or [illegible] addition to the [illegible] provided by Sec. [illegible] ons, which provides as follows, to wit:

"'The name and address of the person to whom the matter shall be sent; index-figures of subscription-book, either printed or written; the printed title of the publication and the place of its publication; the printed or written name or address without addition of advertisement of the publisher or sender, or both; and written or printed words or figures, or both, indicating the date on which the subscription to

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

A PALL hangs over *The Ground-Glass* far deeper than any shadow which has ever before obscured it. Photography has lost one of its earliest friends; one of its most substantial supporters; one of its wisest and best men. W. Irving Adams, President of the Scovill & Adams Company, of New York, died at his home, "Irvingcroft," Montclair, N. J., about five o'clock in the afternoon of the second day of the new year. Thus has a great calamity befallen us all, and we are all in mourning. His portrait appears in this number, and on other pages a few of his devoted friends pay affectionate tribute to his memory.

But few men may hope to win such glowing tribute to their memory.

It is true that notwithstanding this great shadow photography will continue to grow higher and wider year after year, and the great business of supplying the means employed by it will "continue just the same;" but there will not be "just the same" light in everything about us that pervaded when W. Irving Adams was with us—with his wisdom, his good-cheer, his loyalty, his enterprise, and his fellowship —when he was alive.

Some of the new subscribers and some of the older ones who either did not read our last July number ("A New Departure," page 330), or who have forgotten what they read, express surprise in recent letters that "regular photographs are no longer given in the magazines," or ask that "more regular photographic prints" be incorporated with our numbers. For this reason we deem it necessary to state again why all photographic magazines are forced to the abandonment of their long-time plan of embellishing with photographic pictures mounted upon cards. The reason is that his honor, the Postmaster-general, has ruled that such practice is against the postal law of the United States. We quote as follows from his letter:

"Photographic and other matter pasted to printed paper sheets are additional to the original print prohibited by law, which reads that these shall contain no writing, print, or sign thereon or therein in addition to the original print, except as provided by Sec. 3 of Postal Regulations, which provides as follows, to wit:

"'The name and address of the person to whom the matter shall be sent; index-figures of subscription-book, either printed or written; the printed title of the publication and the place of its publication; the printed or written name or address without addition of advertisement of the publisher or sender, or both; and written or printed words or figures, or both, indicating the date on which the subscription to

such matter will end; the correction of any typographical error; a mark except by written or printed words to designate a word or passage to which it is desired to call attention; the words, "sample copy" when the matter is sent as such; the words "marked copy" when the matter contains a marked item or article.'"

So, then, our MAGAZINE will not be embellished regularly by photographs pasted upon cards; but, instead, our embellishments will consist of more variety as to production and style, and afford a more acceptable means of study in pose, lighting, and technique. All this will be to the greater advantage of our subscribers, and prove a wise change, we are sure. Our studies will become more and more valuable, and thus there will be no loss to the subscribers. Having started in for more variety, we are determined that our readers shall have examples of our art of every class of reproduction, in full quantity and of the best. This change will enable us to give better models for imitation than we have been doing, for the reason that of late years it has been almost impossible for us to secure interest enough on the part of photographers to obtain sufficient first-class negatives of one subject at once for printing our large edition in anything like decent time. There will appear, however, frequent silver prints. Then, again, ere long the postal rules may be modified so as to enable us to resume the old plan.

The Ground-Glass and Lord Salisbury are both having a pretty anxious time just now. While the one is kept constantly on the alert by Venezuela, America, Germany, the Transvaal, Egypt, Turkey, and the minced beefsteak factory which bears his name, the other is kept in an out-of-focus condition all the time by the outbursts of the gullible newspaper editors, who are incessantly printing the Punch-and-Judy show claims of disreputable "discoverers," who "have, after long years of earnest research, found out that by means of photography, we may," etc. —well, for example, "photograph in natural colors;" or "thought," or your "works," and, for heaven's sake, what not? The whole world is in a state of nervous agitation, and photographers of the reputable class are on the verge of annihilation. The next thing we know, if this goes on, we shall see what we are going to eat next week, and long before the election be shown a fine portrait of the president-elect.

Following are some of the claims to which we have alluded and found in the public prints:

On the Eye. A discovery of extreme interest has recently been made in the science of photography, which appears to leave no doubt that pictures are formed on the retina of the living eye, which can be photographed from the eye after the object which formed the picture has been removed from view.

The experiments which have resulted in this discovery were made by Mr. W. Ingles Rogers, an amateur photographer, and are briefly described in a recent number of *Nature*. The subject of the first experiment was a shilling-piece. Mr. Rogers looked at the shilling for an entire minute. Then, having shut out some of the daylight from the room by means of a yellow screen, he looked for forty-three minutes intently at a photographic plate, endeavoring during this time to keep in mind the appearance of the coin and think of nothing else. The second experiment, made in the presence of three other persons, was still more remarkable in its results. A postage-stamp was substituted for the shilling as the subject of observation, and was looked at for the same length of time —one minute. In this case the experimenter gazed at the photographic plate for

twenty minutes only. There is said to be an absence of detail in the picture which was developed from the plate, but *Nature* declares that "sufficient was seen to prove beyond doubt that the picture of an object impressed upon the retina can send out vibrations which will result in the production of an image upon a sensitive plate."

This would be valuable, if true. Only we suggest that it might be just as easy to substitute a hundred-dollar note for a shilling. One would realize more then. No doubt forty-four minutes might answer as well as forty-three.

It would be a great convenience if one could just look at a postage-stamp and then photograph it on an outgoing letter. A pity that postage is not more costly. We vibrate.

This discovery is suggestive of the most interesting possibilities in physiology and photography, and may well prove important also in the domain of medical jurisprudence.

What did we say? How alert is *The Ground-Glass* for all these vibrations! Here is even a more wonderful claim, which most appropriately first appeared in the *New York Sun*. Read it all:

"The noise of war's alarms should not distract attention from the marvellous triumph of science which is reported from Vienna. It is announced that Professor Routgen, of the Würzburg University, has discovered a light which, for the purposes of photography, will penetrate wood, flesh, and most other organic substances. The professor has succeeded in photographing metal weights which were in a closed wooden case, also a man's hand, which shows only the bones, the flesh being invisible.

"The *Chronicle* correspondent says the discovery is simple. The professor takes a so-called Crooke's pipe, viz., a vacuum glass-pipe with an induction current going through it, and by means of rays which the pipe emits photographs on ordinary photographic plates.

"'In contrast with the ordinary rays of light, these rays penetrate organic matter and other opaque substances just as ordinary rays penetrate glass.'

"He has also succeeded in photographing hidden metals with a cloth thrown over the camera. The rays penetrated not only the wooden case containing the metals, but the fabric in front of the negative.

"The professor is already using his discovery to photograph broken limbs and bullets in human bodies."

Wonders of wonders! The world is to be congratulated that this "discovery" was made by a professor who cares nothing for money, else he might have first applied himself to the Rothschild pocketbook, got all that was in it, bankrupted the world, stopped all the wars, and killed the goose that laid the golden egg, for there would have been nothing worth photographing left! This is the worst—nay, it promises the best—for it will fill one's purse, bring apples to the barrel, coal to the bin, and stock to the depleted dark-room—a sort of Photographic Faith Cure —"say it is done, and it is done like ——. Get in the light. Seriously, this looks like a joke. It is not, however, for more recent information confirms the discovery, and results have been shown at the Camera Club, London.

In his *Echoes from France*, on another page, our esteemed correspondent, Mr. Charles Gravier, speaks quite as seriously as *The Ground-Glass* about bogus "discoveries" in photography, and particularly applies himself to the "photography in natural colors" searcher. It was the intention to give such scientific fakirs some attention right here and now, but Mr. Gravier has spared blood by anticipating *The Ground-Glass*.

To quell constant queries, we desire to call the attention of these pretenders to this: "Fellow-discoverers, have you truly and honestly found any means by which you can place a sensitive photographic plate in your camera, expose it to nature, and show forth as a result immediately after the exposure a photograph in natural colors?" Answer, "Yes" or "No." If not, the scientific clouds are full of foreboding for you. Several of you, it is reported, have, as stated by Mr. Gravier, "organized companies with large capital to work the discovery." This is a wicked waste, and capitalists who have "fallen in love with photography" because they can snapshot a cow or a pumpkin should be told that they are being defrauded, and that they would use their money with far better results if they would provide a home for Jex Bardwell, another for Father Snelling, or a hospital for defunct dried-plate makers or a cemetery for dying paper "establishments."

The Last Dodge.—Free Railroad Tickets to Westfield and Return. "The Crown" Photo Gallery on Church Street, Westfield, makes the following unparalleled offer to its out-of-town customers during the month of January, 1896:

To every one within a radius of fifteen miles of Westfield who purchases one dozen best-grade cabinet photos (price, $3.00), I will present a round-trip railroad ticket from your respective railway station to Westfield and return.

I take this way during this month to more fully introduce to the out-of-town people the excellent photo work that is being turned out at my gallery. This gallery aims to give true values in every transaction.

Photos from $1 per dozen up. Satisfaction guaranteed. Would you like to come to Westfield? If so, come and get your photos taken, and your fare costs you nothing. Now is the time. Respectfully,

"THE CROWN" PHOTO GALLERY,
Church Street, Westfield.

ECHOES FROM FRANCE.

THE topic of supreme interest here in Paris is again the photographic reproduction of colors. Since the days of that veteran of color-process humbugs, Hill, whose writings are doubtless well remembered by many Americans, we have not lacked in Europe an abundance of pseudo-inventors of the same class, profuse in promises and mysteries, skilled in bombastic self-advertisement, but absolutely destitute of information concerning their wonderful(?) methods.

Unfortunately, the credulity of many speculators too often equals the boldness of their enchanters. The former carefully avoids consulting a specialist regarding the invention of which he is led to suppose he has the exclusive knowledge; and the latter sustains the suspicion of his dupe with the argument that it would be unwise to call in the specialist who, having no rights or obligations in the matter, would undoubtedly reveal the discovery which has been attained by so much labor, etc.

Consequently we frequently see in secular papers descriptions of this and that remarkable discovery by which the long-dreamt-of process of photographing in colors has at last been fully perfected—different altogether to the well-known method of So-and-So, and yet simply an application of theoretical principles known since the earliest days. And so on, *ad nauseam*.

The saddest feature of this is that these abortions divert and disgust the well-intentioned capitalist, who is led to distrust the possibilities of many really worthy inventions which are placed before his notice for development commercially.

One firm of inventors, having swindled

a large manufacturer out of 600,000 francs for a worthless process of photography in colors, has just been sentenced to imprisonment for a term of ten months. Notwithstanding this lesson, we are informed that an honorable house is about to organize a company to further exploit the very process to which we have referred, announced in glowing terms in many of our journals.

Another firm, it is said, intends to form a company to operate the imbibition process that Messrs. Lumière Bros. (who improve all that they touch) have brought to the surface—the invention of Charles Cros.

How often old photographic processes are reinvented! And yet often a modification makes an old and hitherto useless discovery of practical service. We must not, therefore, wholly deny to the rediscoverers the merit of their results. It has long been known that halation may be avoided by coating the back of the plate before exposure with a colored coating, which absorbs the rays which pass through the glass causing reflections, and hence the effect called halation. The recent interest devoted to this question has resulted in the preparation of non-halation plates by many different methods: in one the back of the plate is coated with a light absorbent substance, in another an absorbent dye-color is placed between the sensitive emulsion and its glass support, in a third successive layers of emulsions of varying intensity are coated on the plate.

Bi-iodide of mercury has long been proposed for the intensification of negatives; it is prepared by mixing bichloride of mercury with iodide of potassium. It is, however, surprising to find in the photographic journals a mixture of bi-iodide of mercury and iodide of potassium proposed as an intensifier for negatives. To our surprise also, we recently learned that the *Chemische Fabrik auf Actiens*, of Berlin, has informed our friend Mons. Mareschal, of the *Photo. Gazette*, that "whosoever uses formal, the new hardener, industrially, injures its interests and infringes on its patent."

The French editors continue publishing portfolio albums in the style of the one coming from one of your Chicago companies, but, as our engravers charge a very high price, the photographic negatives are sent either to Munich, or to Vienna, or to Berlin, to be converted into typographic blocks by the "screen" process. Nothing is easier, however, by using either a carbon pellicle or the enamel process to obtain an engraving on copper. The portfolio of 1894 has cleared a net profit of 400,000 francs for its publishers.

The countertype question continues to strongly interest certain amateurs; the process, which consists in over-exposing a plate behind a negative, does not give as satisfactory results as the bichromated gelatine process, which gives certain results.

Much attention is being paid at this time to the question of coating negatives on gelatine, as it must be admitted that much disappointment is experienced with the films found in the trade (do we not have trouble also with sensitive plates?). A coating of gelatine may be turned into a pellicle by a body having the property of hardening it, consequently of producing an intimate contraction. Successively have been used absolute alcohol, tannin, ether, chrome alum, hydrochloric acid, which acts by "disorganization;" to-day it is formaldehyde, otherwise called formal or formaline, which is on top.

The following is the formula used:

Commercial Formal at 40 per cent.	6 to 8 parts.
Glycerine	1 part.
Water	100 parts.

The wet negative is placed for four or five minutes in the above bath; it is afterward left to dry, then covered with a coating of normal collodion or with a coating of collodion with acetate of amyl, or it

is lined with a sheet of gelatine (it adheres with some difficulty). It is then easy to detach the film from its support.

The bioscope of M. Demeny has just made its appearance. The promise is made of projecting on the screen measuring forty square metres, which has been set up at the cycle exhibition, photographs of subjects in motion, of life size.

It is said that a society is about being formed for showing the cinematographic projections of Messrs. Lumière; it is certain that, with an apparatus taking up but little room, it is possible to get good results in a theatre or any other public place having a suitable amphitheatre. We have already referred to the society for operating the panoramic projections of Col. Moessard, which are thrown on screens measuring 8 x 5 metres. This should console the troubled spirits who are so annoyed at the use of small instruments of the photo-jumelle type.

CH. GRAVIER.

PARIS, January 3, 1896.

METOL DEVELOPER.

[Translated from Vol. I. of Dr. F. Stolze's *Photo. Cyclopædia*, for WILSON'S PHOTOGRAPHIC MAGAZINE.]

OF all the modern developers metol has proved itself to be the most manifold and the most nearly universal; because it will yield, depending on the manner in which it is used, very great intensity or softness.

The developer in question is also excellent for the development of papers, yielding results which are very similar to those obtained with paramidophenol developer.

The following formulæ are excellent for preparing concentrated stock solutions:

Solution A.

Metabisulphite of Potash	30 parts.
Metol	10 "
Distilled Water	300 "

Solution B.

Carbonate of Soda	100 parts.
Water	400 "

For use, mix 20 parts of A, 15 parts of B, 20 parts of water.

Recent experiments have also been made tending to the increase of the quantity of sulphite in the preparation of the metol developer, which experiments show that more detail is thus obtained, and without producing a tendency to fog, which trouble goes hand in hand with the increase of the carbonate of soda in the developer.

The sulphite is introduced by substituting for Solution B the following:

Solution C.

Carbonate of Potash	100 parts.
Sulphite of Soda	100 "
Water	500 "

Take 20 parts of A, 20 parts of C, 20 parts of water for actual use.

A further peculiarity of the metol developer, and one which it possesses in a still higher degree than amidol, is that bromides, when added in small quantities, as in minims, seem to have no influence, and become active only when added in larger quantities.

The addition of bromide of potash, drop by drop, will have a tendency to clear, in case of a slight superficial fog.

The addition, however, of a solution of $\frac{1}{10}$ sulphite of soda in place of bromide of potash has a perceptible retarding influence.

Metol developer exposed to the action of the air oxidizes very slowly indeed, a point of great advantage, and it may, therefore, be used for a number of prints in succession if a small quantity of fresh developer is added previous to the development of each separate print.

WHEN ARE SILVER PRINTS LIABLE TO FADE?[1]

BY DR. LEO BAEKELAND.
President of the Nepera Chemical Company.

PHOTOGRAPHIC printing took a step backward by the reintroduction of the "combined-bath." The past history of this objectionable method was such as to make everybody cautious against using it. The "combined-bath" method is undoubtedly very attractive to those believing in it. It is simple and quick, and can be used with advantage whenever the lasting qualities of the prints made by it are not taken into consideration. The danger lies not in the method itself, as long as those who use it know what they may expect in regard to probable permanent results. No, the harm has been done specially by those who should have made every possible effort to tell the truth in this matter. Manufacturers of photographic papers, by recklessly or ignorantly recommending combined baths with their products, have aided very much to give their own articles of manufacture a very bad reputation of uncertainty. If albumen paper has still many faithful followers, the fact is mostly due to the understanding that this paper at least has not been abused and tortured with combined baths.

Many have been the discussions on the subject. I am glad to state that now there is a decided change of opinion in favor of separate baths. However, we still notice very contrary assertions. Most of the combined-bath advocates will tell you that many of the combined baths are not reliable, but that they have their own formula, on which you can safely depend. As proof, they will show you prints which have kept well for years. They explain all failures as due to exhausted baths, wrong temperature, imperfect washings, impure chemicals, etc. Let me say right here that such assertions are merely based on illusions. If some combined-bath prints have kept well, this in itself is not a proof of permanency. It is merely a proof that they have not faded, and this may have been due to the fact that they have not been subjected to such strong influences as to change them. In other terms, the question is not: "Will this or that print fade:" but "Are they liable to fade, and in how far are they liable to do so?"

In the actual conditions a photographer turns out every day a certain number of prints, and has to rely on his own guessing, or on hearsay, when it comes to the question of permanency of his products.

There was a time when bridges, buildings, and machinery were constructed without much accurate knowledge of the resisting strength of materials. Each undertaking of the kind was an experiment in itself. The builder used the alternative of either wasting material by making his construction unnecessarily heavy, or by finding afterward that the results of his work were unsatisfactory as regards strength.

Modern industry is no longer satisfied with this, and wants more accurate information. Modern engineers have their materials carefully tested chemically and physically, and this enables them to obtain the most reliable results in the most favorable conditions.

In the manufacture of guns, armorplates, bicycles, etc., testing has become an important factor, and has helped enormously to develop and perfect these industries.

Bicycle manufacturers, for instance, do not decide on the quality of their machines by idle words, but by substantial

[1] Read before the Society of Amateur Photographers, New York.

tests. They do not admit as proof that a machine of inferior make is as good as theirs from the fact that one has lasted as long as the other, because neither of them may have been subjected to severe work or strain sufficient to decide the question of quality.

Why should not the same methods be adopted for determining how far photographic prints are liable to fade? Let us see now which are the most appropriate tests which will give us an idea about the relative permanency of silver prints. A popular test among photographers is to subject the print to the action of strong sunlight for several days.

If there is no change in color, this is considered a proof of permanency. This test is very incomplete and superficial, and has led to many errors. I have seen "combined-bath" prints behave very well in sunlight, yet they faded badly when kept in an album or in a closed box. Furthermore, it is a known fact that pure uncoated paper, bearing neither image nor silver emulsion, will turn in color when subjected to the action of sunlight. The most expensive and best white paper, such as is used for platinum or bromide paper, will change in color if submitted for a few days to sunlight.

Baryta-coated papers will change just as quickly under the same conditions, and as they are always slightly tinted pink or pensé, their tint will become somewhat greenish. I have seen some of such papers change after one hour's exposure to the sun. By the result of such tests, which I show you here, you can judge for yourselves as to the extent of the change in color. You will notice that some tints of writing papers, and particularly newspapers, become dark yellow when exposed to the sun for several days. These changes in the tint of the paper should not be mistaken for a fading of the print. The latter is caused by a thorough transformation of the silver image, under the influence of chemical agencies. In order to study the cause of such fading, let us examine briefly the nature of the silver print itself, and let us enumerate some of the possible influences which affect it. The early chemists classed silver, together with gold and platinum, among the noble metals, in opposition to the non-noble or base metals, which are lead, copper, iron, nickel, zinc, etc. This distinction was chiefly based on the fact that noble metals withstand direct oxidation, and that most of the chemicals have little or no action on them, while base metals are easily oxidized and affected by most chemical agents.

Gold and platinum will not be affected by any of the regular constituents of the atmosphere, and that is the reason why these two metals remain perfectly bright and untarnished. More than that, it is well known that gold coins, which have been kept under unfavorable conditions for thousands of years, have retained all their lustre. Silver would behave just as well as gold and platinum were it not for the fact that it has a great affinity for sulphur, and will combine readily with this latter element whenever it has a chance, and this is the reason why silver is liable to tarnish. The slightest trace of hydrogen-sulphide in the air will cover it very soon with a very thin, yellowish film of silver sulphide, which will become brown, then finally turn black.

There is a bright silver dollar piece, and you observe that as soon as I bring it into this bottle, in which I have produced some hydrogen sulphide, it becomes covered with a black deposit of sulphide of silver.

Sulphur emanations are nearly always present in the atmosphere, be it as plain hydrogen sulphide or as more complex compounds. Therefore it is rather difficult to keep silverware in bright condition. Imperfectly purified illuminating-gas, burn-

ing coal, decaying matter, etc., are so many sources which bring sulphur into the atmosphere. The action of hydrogen sulphide on silver prints may probably be helped by the simultaneous presence of ammonia or humidity. All other conditions which favor chemical action may hasten the process of fading. Among these favorable conditions I should mention increase of temperature and extreme division of the reacting bodies.

The action of heat as an accelerator of chemical reaction is so well known that I can dispense with insisting long on this point. A great number of chemical reactions will not occur at a low temperature, but will proceed easily by increasing the temperature. The influence of the state of division is accepted by all students in chemistry. Where gases act upon solids this action will be rendered more immediate and more complete if the solid has been reduced first to an impalpable powder. Where a solid piece of iron may last for centuries, even when exposed to damp air, this same quantity of iron, in the shape of filings, will degenerate quickly into a brown, rusty powder. Chemists know of a method of producing iron in a shape much more divided, much finer than the finest and most divided iron filings, so fine, indeed, that it could not be obtained by mechanical means. In this glass tube I have some such finely divided iron. You will notice that this glass tube has been closed by melting it at both ends. This precaution was absolutely necessary, because this very highly divided state of iron is so susceptible to chemical changes that it would combine itself instantaneously with the oxygen of the air and undergo spontaneous ignition.

As soon as I break the end of this tube and scatter its contents into the air, you notice that each particle of iron becomes incandescent, and by gathering some of the products on this white plate you will notice that these particles have acquired a brownish color, which is the color of iron oxide.

This example enables us to understand how silver in a more or less divided state will be more or less liable to undergo the action of chemicals, and especially of hydrogen sulphide. Let us add at once that the photographic image is made up of silver in an extreme state of division.

There are many substances which, although having absolutely the same chemical composition, can exist under two or more modifications of entirely different properties. There is an element, for instance, which is known under the name of phosphorus, and which enters as the chief ingredient into the manufacture of lighting-matches. This phosphorus is known under at least two different states, which are designated by chemists as allotropic modifications. Phosphorus in its usual condition is transparent, colorless or slightly yellow, brittle when cold, but soft at summer temperature, and it melts in hot water; it is a great poison, is soluble in carbon disulphide, and has such an extremely great affinity for oxygen that it enters quickly into spontaneous combustion when exposed to the air. That is the reason why it has to be preserved under water. Now, there is another allotropic state of phosphorus which can be produced by certain methods. In this state phosphorus is red, hard, insoluble in carbon disulphide, non-poisonous; it melts only at a relatively high temperature, and can be kept without the slightest danger even in dry condition; it will only take fire at a relatively high temperature; it shows none of the strongly accentuated chemical properties of the white variety of phosphorus. Silver, just the same as phosphorus, also can exist under several allotropic states. This explains why one kind of silver image may prove much more permanent, *i. e.*, much more resisting to chemical influences, than the other.

The silver precipitated by development in the image of a bromide print or a bromide plate is in an entirely different condition from the silver in the image of a printing-out paper. If we examine the image of a bromide print or bromide negative under the microscope, we find that it is composed of a multitude of little silver particles, very distinct in shape, and of measurable size. If, however, we examine under the same magnifying power the image of a printing-out silver paper, we fail to observe distinct silver particles. The whole image seems to be formed by such extremely thin particles of silver that they appear more as a homogeneous stain. I have some doubts whether the printed-out silver image can be compared at all to that one of a bromide print, or any other print obtained by development.

Whereas, we are sure that in a bromide print the image is formed by the juxtaposition of particles of pure precipitated silver, it is very probable that in printing-out papers the process of reduction is not so radical, and what is called commonly a silver image, for albumen, gelatine, or collodion paper, is probably nothing more than a darkened organic silver compound or product of partial decomposition of the original chloro-organic silver compound. Were this image the same as a bromide image, plain fixing in hypo ought to produce a print approaching a degree of permanency somewhat similar to that of a bromide print, and experience shows that this is not so. Even the process of gilding, *i. e.*, toning, does not succeed in making it as permanent as a bromide print. The natural conclusion is that either the printed-out image is not pure silver, or if it contains any free metallic silver, it exists there under a special allotropic modification which is so easily affected by chemicals that it is rather liable to fade.

In a printing-out paper, the image has so little resisting power that even water will act upon it. Indeed, it is a known fact that such silver prints, even when they are toned and fixed in separate baths, will be affected by water and bleach out by and by, if left in the washing tank too long.

The more are they liable to undergo these changes if they are toned in combined baths, as can be readily proven by direct tests. Why is this so?

It is generally stated that the lack of permanency in combined bath prints is due to the fact that the prints have become sulphurized, and that the silver has become sulphide of silver. If this was the only reason, I fail to see why bromide prints toned in hypo-alum, and which have been integrally transformed into sulphide of silver, also prove to be very permanent, and can easily compare in this respect with the best of prints made on albumen and toned with gold.

In a printed-out image, the layer of silver is either so thin or in so delicate an allotropic condition that, in order to render it somewhat more resisting, it has to receive a deposit of gold or platinum.

By sulphurization, such an image can only be made still less resisting and rendered more liable to further alteration or fading. In a bromide of silver print this is not to be feared so much, on account of the more resisting qualities of the silver therein.

It may be, also, that in a printing-out paper the sulphurized image is not pure sulphide of silver, but a sulphur organic compound of silver, more apt to change than would be the case, under the same circumstances, for pure sulphide of silver. In fact, we know that silver sulphide is a product which stands very well the action of chemical agents, and which can only be dissolved in some strong acids. In nature we find it as a mineral, known under the name of argentite, and in this

state atmospheric agents have no influence on it.

All this points out once more that there is a radical difference between a developed and a printed-out silver image. This is further corroborated by the fact that bromide prints can stand better small quantities of hypo, which may remain in the fibre of the paper. As a rule, they are more refractory to chemical agents; they are not easily affected by hydrogen sulphide.

A remarkable fact is that bromide paper can give permanent prints even when toned in a sulphurizing mixture of hypo and alum. I wish to add here that different kinds of bromide emulsions behave very differently to the action of hypo and alum. Some such emulsions will tone in less than one hour, while other ones will require one day or more. I have observed that slow bromide papers tone much easier than quick bromide papers. By observing the easy toning papers under the microscope, I found that their images have very small particles of silver, while the quicker toning ones show a coarser grain. Here is a very striking confirmation of what I said before in regard to the relation of the size of the silver particles and their relative permanency.

Coming back to the question of combined baths, I ought to say that, in mentioning the evils referred to, there is to be added another one, *i. e.*, the lead salts. These lead salts are added to the mixture in order to make sulphurization more regular, by a rather complicated chemical process; but the lead salt fastens itself in the tissue of the paper, and no amount of washing can remove the last traces of it. The ultimate result is that the white of the print will darken and become degraded by and by, because the lead salt, under the action of hydrogen sulphide, will produce lead sulphide, which is black or brown.

In regard to the vehicle which carries the print in printing-out paper, I have come to the conclusion that it matters little whether it is gelatine, albumen, or collodion. Endless discussions are still going on as to which kind of prints is most permanent. It has been said and repeated that gelatine is not so stable a product as nitro-cellulose, which is the basis of collodion. To this it can readily be answered that gelatine has proved beyond doubt to be a trustworthy medium, and will give permanent prints. Bromide prints, bromide plates, the carbon process, and Woodburytype process have given it a record of reliability. We know, furthermore, that gelatine in a hardened condition withstands wonderfully humidity or friction. A collodion print, on the contrary, is much more liable to abrasion. The film which carries the image is necessarily thinner, and the quantity of silver which can be introduced in a collodion emulsion is very limited as compared to a gelatine emulsion.

A fair amount of silver is necessary to give body to the print, and if the print lacks in silver, it will fade much quicker, even if it is toned with gold or platinum. I am not aware that since the introduction of collodion papers anybody has ever reminded us of the fact that under certain conditions nitro-cellulose is liable to undergo spontaneous decomposition. I am now in possession of quite a large sample of nitro-cellulose, which was made for collodion paper purposes and which was offered to me by a reliable firm; after a few months' preservation it shows already in an unmistakable way the presence of nitrous vapors. This spontaneous decomposition of some kinds of nitro-cellulose is a fact well known by many old photographers who made their own collodion. In how far this spontaneous decomposition of nitro-cellulose may occur in collodion prints has not yet been determined accurately.

If it really occurs, the resulting nitrous gases would undoubtedly prove very destructive to the silver image, and help the fading thereof.

Except in such an emergency as above referred to, we can accept the fact that gelatine, albumen, or collodion may all yield permanent prints if properly handled, and toned in separate baths. A good, thick image, rich in silver, and toned to a deep purplish-brown with a fair amount of gold, will prove to have the best lasting qualities.

The fact that a printing-out paper requires little gold to be toned makes the permanency of such prints questionable. Thorough fixing and washing should, of course, be adhered to. I must say, however, that there is a limit in the time of washing, which should not be exceeded. When this limit has been reached, any further stay in the water will only lower the quality of the prints. Any paper should be thoroughly washed in one hour, provided the water is changed frequently and the prints kept moving all the time. The fading of combined bath prints has often been ascribed to imperfect washing, and yet it is a noticeable fact that such prints will become worse and worse by being left too long in the water, especially if the water is warm.

Any perceptible amount of hypo, if left in printing-out papers, will quickly affect the image and will destroy it by and by. Bromide prints are not so sensitive to traces of hypo. I know of one instance, where a firm, in order to rush out its orders on bromide prints, had to limit the washing very much. The result was that a notable amount of hypo was left in the prints, so much in fact, that by the tongue anyone could easily detect a very pronounced hypo taste. These prints have been made now more than a year, and I must say that they have stood the test of time very well. I wish to add, however, that I would consider such imperfect washing rather reckless, even for bromide prints.

And, now, what is the easiest method for testing the relative permanency of prints. As told before, hydrogen sulphide in the atmosphere is the most destructive agent for silver prints. After more or less time its action will be more or less apparent. In order to find out how prints are going to behave we may subject them to an atmosphere saturated with hydrogen sulphide, and accomplish in this way in one hour what otherwise could only be determined after a test of several years.

Hydrogen sulphide can easily be produced by pouring some acetic acid on a piece of potassium sulphuret. This latter chemical is well-known by all photographers, who use it for precipitating their silver from their waste hypo.

The only drawback of the hydrogen-sulphide method is the obnoxious smell of this gas. Therefore the test should be performed outdoors, where nobody will be incommoded by its disagreeable smell. I ought to guard you also against the great danger of spoiling your silvered paper or dry plates by the emanations of this gas.

Select a wooden box, relatively tight, and provided with a cover, take all the prints which have to be compared and have them all under the same conditions, *i. e.*, they should either be all mounted and burnished or not mounted at all. Cut each print in two, keep the upper half for future comparison, and place all the lower halves upright against the walls of the box. In the centre of the box place a tumbler with a piece of sulphuret in it of about the size of a hickory-nut. Then pour some acetic acid on it and cover the box at once. Leave the prints in this box for about half an hour, and examine them from time to time.

The test will show that any combined bath prints, whether collodion or gelatine,

will bleach first, much later albumen prints will start to fade, after which come the collodion or gelatine papers toned in separate baths. Bromide papers stand the test longest and change very little. I thank you for your attention, and hope I may have thrown some light upon the causes of the fading of silver prints.

THE STUDY OF PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

THE preceding paper gave instructions for making a chromatic chart to be used in future color-studies. It ended with the mixture of the tertiary or dull colors, a knowledge of the highest importance to any aspirant in the craft. These colors are frequently used in all branches of modern art manufacture; also they are employed by painters, who impressively depict the strange mystery in their creations, so powerfully reflecting our emotions, as we gaze at the works of the brush.

How have these been produced? By no magical touch. Although the work of a genius, genius can do nothing unless aided by three things: knowledge, observation, and practical experience. It is the business of the student to perfect himself in these directions; in short, to make this perfection his constant pursuit. Thus the spirit and capacity for investigation are gradually advanced as the perceptions become quickened and the taste purified. By study and comparison the eye must be made sensitive, and by practice the hand must become obedient.

If, happily, there should come an unsatisfied thirst for knowledge, the student will be led to the great fountain-head of all art, the study of nature. The eye must be trained to note that absence of mechanical hardness of outline and flatness of tone which mark thoughtful human handiwork, and by these qualities distinguish it from the work of the machine. Now, in the study of complex color combinations, the mixed hues rightly employed secure the higher chromatic developments and manifest the poetry of color. Assortments of primary and secondary colors are well enough, so far as they go, but it requires a well-cultivated imagination even to appreciate, much more to pursue, their intricate delights. Endeavors to reproduce harmonies of hues by mechanical processes purely are rarely successful, and perhaps less useful than accurate practical examples. Will the observer notice the combination of hues, the hundred variations of tone, texture, and quality presented by an old gnarled tree, with perhaps its clinging vines, and moss-grown trunk standing against the dull gray of the moving clouds in springtime. At the base there remains a carpet of dead leaves and brown tangled weeds, restoring by their varied russet and brown hues the warm balance of color. A close observation of field corners, tangled-fern hollows, and willow-fringed brooklets will help us to realize in an artistic way the value of *temperance of color*, instead of the lavish crudeness so frequently seen. We shall be led by this close study of nature to temper our reds, blues, and yellows with some of the rarer tints seen trembling among the aspen leaves, or glancing along the pathways of the forest in autumn-time.

Reader, if you enjoy the golden gray days, when the veiled sun causes the color-tones to appear rich, deep, and mellow; if you delight, when the day is nearly done, to view the rich coloring of the sunset grays, paling to cool, silvery tones; the forest darkening against the sky, every

color seeming to assimilate itself more to others; the oncoming night, the tints of paleness, gray greens, dulled purple, the varied restful and sad colors, then you will be glad to study such and become familiar with their use.

On our first chart we last mixed orange and purple, obtaining russet; orange and green, obtaining citrine; green and purple, obtaining olive or slate.

Will you now powder the pastels and mix with penknife a small heap of orange, one of green, and one of purple.

Procure a second sheet of Whatman's paper, roughened as before. Describe a circle with compasses as before. Divide it in half by horizontal line. Divide each space into three equal parts, as before, by lines radiating from centre. Number the top space No. 1, the space to the left No. 2, next space No. 3, bottom space No. 4, next No. 5, and lastly No. 6, which joins No. 1 on right.

Rule at top of circle, space No. 1, with stump lines of orange one-eighth of an inch apart. Rule the spaces left with purple with a clean point, of course.

In space No. 3 rule orange lines, as before, and fill remaining spaces with green lines. In space No. 5 rule green lines, as before, and fill spaces with purple. Hold the sheet now at a distance, and in space No. 1 will be seen russet; in space No. 3, citrine; in space No. 5, slate or gray.

Now spaces Nos. 2, 4, and 6 are vacant.

Powder some citrine and olive and tint space No. 4 to obtain a citrine olive. Powder some citrine and russet and tint space No. 2 to obtain a citrine russet. Powder some olive and russet for space No. 6 to obtain an olive russet. The color first named predominates. Accustom the eye to the frequent use of these charts, and then try to discern where the colors occur in the work of artists, and lastly in nature.

For use. We see upon the chart a yellow green, the satisfaction of the eye and mind dictates the use of reddish purple. A bluish purple consorts with a golden orange; a bluish green with a reddish orange. A pure scarlet calls for a blue or deep green; a crimson for a yellow green. In the dulled series we properly use a russet with a dark dulled green; an olive with a dark dull orange; a rich royal purple with a citrine yellow; a purple russet with black; a greenish citrine with light red edged with black.

For more delicate distinctions; a citrine russet with a citrine olive; an orange citrine with a green olive.

If there comes with your efforts a sense of advancement, you will have the courage to undertake the study of attractive combinations of three or more colors, to follow the elementary color lessons already given.

Now the small expense incurred for these lessons leaves no student with any excuse for his failure to prepare them. There is no time like the present. "The Bird of Time has but a little way to flutter, and the bird is on the wing."

Liquid Gelatine.—In mounting photographs in optical contact on glass difficulty is often experienced in preserving the gelatine solution in a liquid condition of the right consistency. Hitherto this has been done by keeping the gelatine solution in a separate vessel enclosed in a hot-water bath over a small stove. A writer in *Photo. Correspondenz* says that by adding a small quantity of hydrate of chloral to the gelatine solution it may be kept liquid without heat, even at a low temperature. The formula he gives is as follows. Mix:

Hydrate of Chloral . . .	5 parts.
Gelatine (previously softened in water)	8 "
Warm Water	20 "

A TRIBUTE TO THE MEMORY OF WASHINGTON IRVING ADAMS.

By EDWARD L. WILSON.
Editor Wilson's Photographic Magazine.

The entire photographic fraternity of the world will be shocked to learn of the death of Washington Irving Adams. This sad event took place suddenly, at his home in "Irvingcroft," Montclair, N. J., just after sunset, Thursday, January 2d.

About a year ago he had an apoplectic attack, and, although he sufficiently recovered to be able to travel and occasionally to attend to business, he had been an invalid since that time. An hour before his death he sat chatting cheerily with a couple of friends from New York, who had called to see him, but immediately after their departure he was seized by a second stroke and did not speak again. We dare not trust ourselves to express our personal grief over this bereavement. For over thirty years Mr. Adams was our much beloved and intimate friend. In his business, in his home, in his church, in his benevolence we knew him closely. We mourn with those who mourn the most deeply. We have nothing now to do but to submit and to place on record this inadequate tribute to his memory.

It will be difficult to point to anyone who has had more to do with the success of our art than he. He may well be called "one of the fathers of photography." He was one of those men of affairs lifted up to meet the emergencies of a vast enterprise. He was connected with photography for about thirty-eight years, entering it as a youth and continuing in its service until he died. He was born March 25, 1832, in this city. Our acquaintance with him began quite thirty-two years ago. Neither of us understood then the tremendous growth which was ordained for our beloved art, but in many enterprises together we have worked to meet the requirements pressed upon us, and have had much pleasure together in seeing the work of our hands produce the desired results. When we first knew Mr. Adams he was a salesman in the employ of the Scovill Manufacturing Company. A friendship sprang up between us which has continued outside of and in business with warmth and loyalty which are unusual. His advice and companionship were always a tower of strength to us. He entered the service of the Scovill Manufacturing Co. in 1858, and rapidly rose through successive grades of responsibility until he was appointed, in 1878, agent of the company, with entire charge of the business in New York. In the same year he was elected director of the company. In 1875 he became President of S. Peck & Co., manufacturers of photographic apparatus in New Haven, Conn. (who had previously come under the control of the Scovill Manufacturing Co.). In 1889, when the Scovill & Adams Co. succeeded to the photographic department of the Scovill Manufacturing Co., Mr. Adams was made President and Treasurer of the new corporation. Under his able management the business grew until the Scovill & Adams Company became one of the largest and most influential manufacturing firms of photographic apparatus in the world.

One of the most useful accomplishments of Mr. Adams was the organization of the American Optical Company. At first his efforts to provide better apparatus met with some drawbacks, but in time he succeeded in convincing photographers that the best tools would produce the most ac-

ceptable results. The history of his success has been a brilliant one. Others, seeing what he had accomplished, followed suit, until now, even at the low price at which apparatus is sold, it would be difficult to find any of such poor quality as was supplied to photographers before Mr. Adams took control of the American Optical Company. This records but one of his achievements. Many others have been going on in a hundred different directions for years, quietly, modestly, surely, and persistently, for the benefit of the whole craft.

In 1876 he was First Vice-President of the Centennial Photographic Company. He was for many years Chairman of the Executive Committee of the National Photographic Association of America. When only twenty-one years of age he was elected School Trustee in the Ninth Ward, New York City, but since then has persistently refused to accept any proffered public office under the municipal or State government. He was for many years a Vestryman of St. Luke's Episcopal Church. Since young manhood he had been prominently identified with the Masonic fraternity, having served for twenty-one years as Secretary of Lafayette Lodge, No. 64, of New York City, and two years as Master. On February 9, 1893, he was presented by the lodge with an elegant Past Master's jewel, set with diamonds, in recognition of his long and faithful service. In Capitular Masonry he was advanced and exalted in Corinthian Chapter to R.A.M. In the Chivalric Order he was created and dubbed a Knight Templar in Morton Commandery, No. 4, all of New York City.

He was an active and interested member of the American Social Science Association, of which the Hon. F. J. Kingsbury, Waterbury, Conn., is the esteemed President.

If there was one trait he possessed above another, it was loyalty to the Scovill Manufacturing Company and the patrons of their establishment. Many of his old friends will recall hearing him say, "We want all our friends to do well, but we want Scovills to have their share;" "We always take care of those who are loyal to us," etc. This inbred feeling of loyalty to his employers and to their friends naturally caused him to look for reciprocation. So he became readily wounded when he was deceived or faith with him was broken. He would not permit himself to do an injustice wittingly, and if he found that he had he would quickly do all in his power to correct the wrong. We could write of several occasions when we saw this manfully illustrated. We must confine ourselves to telling of but one. This occurred at one of the annual elections of the National Photographic Association. Mr. Adams was one of the most prominent members of this body and one of its strongest supporters, although he did not personally take part in the meetings. He was an outside worker, "always looking out for the Scovills." His fealty in this last particular caused him to wish for a position on the Executive Committee on the occasion alluded to and to oppose the election to the same office of a strong opponent in business. The election following resulted as he wished. But when, at the first session of the Executive Committee he learned, through one of the photographer members, that his opponent claimed that he "had been treated unfairly," and that his "non-election would cause him to lose caste with his employers," Mr. Adams's tender heart relented and he offered his resignation in behalf of his opponent. He could not see the Association injured by any act of his. A rupture was prevented by the generous offer of his informant to resign and let the defeated one in. All this was done, and the year following was one of amicable working together for the common good of the fra-

W. Innis Adams

PHOTOTYPE, THE F. GUTEKUNST CO., PHILA.

ternity. [The photographer who so characteristically stopped the break and set matters aright, was Mr. James W. Black, of Boston, who died but three days after Mr. Adams died.]

An anecdote of the acuteness of Mr. Adams may not be out of place. Twenty years, more or less, ago, the craft was much annoyed by the "abominable tintype traffic." For several years the subject of relief was discussed with great vigor at the conventions, and at last a series of resolutions was adopted requesting the dealers to "*raise the price of tintype plates,*" so as to prevent further competition and cutting of prices by the tintypers. This resolution and the convention had not cooled before Mr. Adams had wired to the manufacturers of ferrotype plates, contracted for their entire product for some months to come at the then rates, and *obeyed the resolution.* Then he informed the other dealers and solicited their orders for plates at a fair advance, agreeing to raise the prices still 300 per cent. further at a given time. Thus he "let in all Scovill's friends;" all made a good thing, and the desire of the fraternity of photographers was fulfilled.

We refrain from recording further personal recollections to give way to excerpts from a few of the personal letters which have come to us from old mutual friends, from his associates in business, from former employés, and from the *press*, all of which prove what we have said of him—what all who knew him can testify to.

From the President of the Scovill Manufacturing Company, Waterbury, Conn.:

"DEAR MR. WILSON: I enclose a notice which I prepared for our local paper, simply localizing and amplifying a notice in the New York papers. To my mind Adams's strong point was his thorough loyalty to those with whom he was associated through business relations or friendship or family ties. His ideas of business honor and rectitude were sound and firmly held. He was amiable and kindly in temperament, although sometimes brusque in manner, as if he feared that unless he kept up a sort of show of sternness his good-nature would get the upper hand of him. He had a clear and transparent character; there was no feeling of dissimulation in dealing with him or of anything held back. What he thought he said, and what he said he did.

"I really saw but one aspect of his character, the distinctly business side, and I dare say you know much more about him as a man than I did. I hope you will send me a copy of your notice of him.

"F. J. KINGSBURY.

"WATERBURY, January 7, 1896."

From the Secretary and Treasurer of the A. M. Collins Manufacturing Company, Philadelphia:

"PHILADELPHIA, January 11, 1896.

"DEAR DOCTOR: I scarcely need to tell you that I have a large share in the painful sense of loss which the death of our friend, Washington Irving Adams, has brought to so many. Frequent intercourse with each other in business pursuits during nearly forty years had begotten between us a warm personal friendship, which grew constantly stronger to the close of his life. Our kindred business led to frequent journeys to distant cities, so frequent that at length the presence of one became, to many, suggestive of the presence of the other. In these journeys we came to know each other well, and to know him better was to esteem him more. He not only commanded implicit confidence by his strict integrity and admiration by his social qualities and business ability, but by his personal magnetism and his warm, tender, and generous sympathy, he took and kept possession of one's heart. He was a bright light in his home and in every circle in which he moved; a light which

has not gone out, but illumines the cloud in which death has enshrouded his memory; a light which may help to guide many who still are left, in their domestic and social and business life, and to cheer them in their journey to the rest which he has reached. I am sincerely yours,

"EDWARD COPE."

was accorded to him as President of the Scovill Manufacturing Company, and later the Scovill & Adams Company, positions which he won by faithfulness and integrity. We were sometimes antagonistic in our business relations, being rivals in the business; and myself being President of E. & H. T. Anthony & Co., our

Centennial Photographic Co. Philadelphia.

WASHINGTON IRVING ADAMS. In 1876.

From the President of Messrs. E. & H. T. Anthony & Co., New York:

"NEW YORK, January 7, 1896.

"MY DEAR WILSON: In the death of our mutual friend, W. Irving Adams, we have met with a great loss. He had been our companion in business and socially more than thirty years, and I learned to love him more than can be expressed. He was always faithful to the trust which interests and theirs sometimes did not harmonize; but outside of our business relations we entertained no unkind feeling. He was always congenial, liberal in his bestowment of good-cheer, and gave substantial support to many of the unfortunate. His fidelity to trust always won my admiration.

"It is a personal loss to the business fraternity and many outside of his own

family, and pleasant memories will ever come welling up to those who have had the pleasure of any association with him. His personality was always felt in our business associations and conventions, and wherever he came in contact with others.

"He bore with fortitude the trials and afflictions which came to him in his family. His brightest hopes vanished in the death of those he loved; still he looked forward with great confidence to much prosperity, as he felt that all things were directed by infinite wisdom, over which he had no control, and he still kept on in his life's journey, bearing with courage all the ills that came to him. All we can say of him is, peace to his ashes. The weary one is at rest. Truly yours,

"V. M. WILCOX."

From the President of the Cincinnati School of Photography:

"FRIEND WILSON: My acquaintance with W. Irving Adams began early in 1864. He had then been in the employ of the Scovill Company several years, and certainly his continuous connection with the house must have rounded out a period of thirty-five years. A few instances only, in connection with the photographic stock trade, can be recalled of similar long services in the interests of one concern. Of those now in active business in the East, who were contemporaneous with Mr. Adams, we can now only remember the publisher of this MAGAZINE, Mr. G. Gennert, Mr. J. W. Willard, Mr. Jacob Kleinhans of Charles Cooper & Co., of New York, possibly Mr. Cope of the Collins Company, of Philadelphia, and the venerable Benjamin French, of Boston. To those who knew Mr. Adams well and studied his character, the reason for his long-continued service in the interests of one corporation is easily explained. Really one word will solve the problem, 'loyalty' to the Scovill Company. This sentiment permeated his very being by day, and as our dreams are but the reproduction of our waking thoughts, doubtless it was the subject of his dreams by night. In season and out of season, in jest and in earnest, in conversation and in prepared articles, he impressed everyone with his faith and zeal in the interests of the house with which he had been so long identified. One with such a dominant characteristic could not but form and mould the opinions of those with whom he came in contact, and they in turn soon felt the influence of his sterling business qualifications.

"The dealers especially, with whom he was mostly thrown in contact, will miss his genial presence, his hearty greetings, his jovial conversation, and his sound judgment and advice.

"He began his business life in the dark and gloomy basement on Beekman Street, where the photographic department of the Scovill Company was conducted. How much pride he would have taken had he been spared, to see the large and commodious quarters into which the Scovill & Adams Company have just moved. Those who were closer to him can dwell upon other traits of his character which are deserving of mention, but I have preferred to single out the one which, during my long acquaintance with him, seemed to me to control his career. With no disparagement to those who are still in the employ of the Company, it would seem to one 'old-timer' at least, like a banquet hall deserted, to visit the old house and look upon the empty chair of W. Irving Adams. D. K. CADY."

"In all the sixteen years of our business relations we never had a single dispute. I always found him ready to meet half-way in any business transaction requiring change, and in every instance to live up to any agreement made.

"JOHN CARBUTT.

"WAYNE JUNCTION, PHILADELPHIA."

"He was a man of strict integrity, a lover of art, and a friend of artists. He has done much for the advancement of photography. It is with much pain that I learn of his death. E. LONG.

"QUINCY, ILL."

"It is with the deepest regret and sadness that I learn of the death of our mutual friend, W. Irving Adams. By it I am admonished that I must sooner or later follow him. In his death I have lost a true friend. J. R. CLEMONS.

"PHILADELPHIA."

"CHICAGO, January 7, 1896.

"FRIEND E. L. WILSON: Your note of yesterday furnishes the first intimation I have received of the death of our friend, W. Irving Adams, who has stood so long as one of the most prominent and influential, as well as one of the most highly respected and honored men connected with the photo supply trade in the United States. In fact, it would be difficult to overestimate the power of his influence, or the esteem in which he was held by all who were brought into business or social contact with him during a long as well as an honorable, successful business career. His loss to those intimately associated with him in the family and in business must be irreparable, and it is wellnigh so to the trade at large, with which he was identified. All who are thus bereaved have the deepest sympathy of yours very truly,

"JAS. H. SMITH."

"CLEVELAND, O., January 7, 1896.

"MY DEAR FRIEND, DR. WILSON: I am shocked to hear of the death of our esteemed friend, W. Irving Adams. I have not met him since his health failed, and remember him only as the man in full health; the man of genial manners and kindly voice, whose welcome to me was always marked and wholesome. To know him was to admire and honor him. That I can never again come within the sunshine of his friendly presence is a hardship.

"To his bereaved family and friends I tender my sympathy.

"Yours truly, J. F. RYDER."

"BUFFALO, N. Y., January, 7, 1896.

"As a man of great ability and worth and for his kind acts and noble spirit he was highly appreciated. His efforts to do right by all his customers made it a satisfaction to do business with him. I always found him true and honorable.

"DAVID TUCKER."

"PHILADELPHIA, January 10, 1896.

"DEAR SIR: The sad telegraphic message announcing the death of W. Irving Adams has cast a gloom over the newborn year. My early success was largely due to his liberality and indulgence, and time cannot possibly efface from my memory his affable, equitable, and courteous treatment. Death in this instance has robbed me of one of my best friends.

"Yours very truly,

"W. P. BUCHANAN."

"He was a loyal friend and very popular with the photographers.

"H. LITTLEJOHN."

(Many years associated with Mr. Adams, as bookkeeper of the Scovill Manufacturing Company, and later as Secretary of the Scovill & Adams Company.)

"He was an old friend; a man of refinement and culture. His aim always was to uplift the art. His death will cause a sore breach in the intellectual front of the profession. JAMES LANDY.

"CINCINNATI, O."

"My acquaintance and business relations with him have extended over thirty years. I always held him in the highest esteem. Doubtless he did more for me in my early business career than I am aware of. I shall always remember him with gratitude and kindly feelings.

"H. A. HYATT.

"ST. LOUIS, MO."

"I was very sorry to hear of the death of our esteemed friend. This has caused the photographic profession the loss of a valuable member and coworker. His genial ways and kindly manner will be remembered forever by all who had the pleasure of knowing him. G. CRAMER.

"ST. LOUIS."

"I had business relations with him for over a quarter of a century and always found him honorable and upright; a man of the highest integrity; zealous in business, and one in whom I had the fullest confidence. BENJ. FRENCH.

"BOSTON."

"DETROIT, MICH., January 13, 1896.

"MY DEAR MR. WILSON: I have your letter of the 6th, telling me that after life's fitful dream our old friend, W. Irving Adams, is at rest.

"What a flood of memories come to me as I think of those who greeted him as his feet touched the other shore, and of the pleasure his coming was to them. I am sure he brought them joy, as he did so often here as he came in among us. His genial, hearty way—as I remember his entry into the meetings of the old Dealers' Association, of which he was an honored member and officer—was like a draught of fresh air through an open window. Courtly in bearing, imperious at times in manner, now and then hasty in speech, yet with a heart as tender as a woman's, and with a sense of honor that would have given him a seat at King Arthur's Round Table, he

Moreno & Lopez. New York.

WASHINGTON IRVING ADAMS. His latest portrait.

was an example most worthy of following. All in all, I count the lives of such men as our friend Adams, as God's good gift to the world for its betterment. May his tribe increase, say I. Bidding him 'good-day,' it won't be long before you and I, with others of his older comrades, shall have the pleasure of bidding him 'good-morrow.' Very truly yours,

"GEO. R. ANGELL."

"NEW ORLEANS, January 9, 1896.

"MR. EDWARD L. WILSON.

"DEAR SIR: We learn from the press dispatches the sad news of the death of our esteemed friend, W. Irving Adams.

"We desire to express our high appreciation of the sterling character and honest dealing that have ever marked our business intercourse during the past twenty years, which stamped the deceased one of Nature's noblemen.

"We feel that in the death of Mr. Adams our ranks have sustained an irreparable loss. S. T. BLESSING, New Orleans,

"BLESSING & CO., Baltimore,

"Per J. P. BLESSING."

"CLEVELAND, O., January 13, 1896.

"MY DEAR MR. WILSON: I much regret that it has been impossible earlier to reply to your note of the 6th inst. I am deeply pained to learn of the sudden death of my old friend, W. Irving Adams. I have known him more than twenty-five years and have ever held him in the highest honor and esteem. On more than one occasion I have been the recipient of his generous kindness. It would be difficult indeed to analyze his true character. It combined the most severe austerity with the most gentle sweetness. He despised pretence or sham, and was quick to detect it in whatever form it appeared. He was equally swift to discern real worth and experienced the highest pleasure in giving it full recognition. He had a high ideal of commercial honor and honesty. He was punctilious in all business engagements and insisted that others should be so also. His word was his bond and he had but little use for those who disregarded business obligations.

"No one questioned his integrity and purity of character. They were of the highest order. His friendships were few, but sincere and strong and lasting. One was fortunate indeed to be numbered among his friends. His loss will be severely felt by the photographic fraternity, and the memory of his many noble virtues will remain with us while life life shall last.

"Sincerely yours, H. Q. SARGENT."

"MY DEAR MR. WILSON: . . . . Yes; it happened to be my privilege to be the last one, out of the hosts who knew and loved him, to grasp his generous hand. . . . . He seemed so well then—so much brighter and more cheerful than usual—that I had no idea that the end was so near (a dear friend of his and *confrère* of mine, Rev. Prof. Searle was with me), yet as a matter of fact, we had hardly reached home after our visit, when Mr. Adams was dead. Yours faithfully,

"CLARENCE E. WOODMAN,

"Priest of the Congregation of St. Paul the Apostle, St. Paul's Church, Fifty-ninth Street, New York.

"JANUARY 14, 1896."

"DEAR MR. WILSON: By the death of our friend, W. Irving Adams, many have lost a warm-hearted, whole-souled friend. Ever genial, kind, and courteous, he endeared himself to all who knew him. One felt acquainted with him immediately upon introduction; for he was so easy and entertaining in conversation that he destroyed all feeling of formality and at once seemed like a friend. He was always upright and straightforward. This principle carried him through his very successful business career. We shall all miss him.

"W. H. ROBEY,

"(HARGAN, ROBEY & CO.).

"BOSTON."

"NEPERA PARK, N. Y., January 6, 1896.

"MY DEAR MR. ADAMS: I only heard to-day, much to my great regret, of the severe loss which has again befallen you, and I hasten to send you my sincere condolence. Having myself suffered in like manner, I can appreciate your own feelings, and know that no words can assauge your grief. It is only to a kind Providence and the healing effects of time that one can look forward to.

"Please accept the assurance of my sympathy, and believe me, cordially yours,

"LEONARD JACOBI.

"MR. W. I. LINCOLN ADAMS."

"PHILADELPHIA, January 4, 1896.

"THE SCOVILL & ADAMS CO. OF NEW YORK.

"GENTLEMEN: We learn of the death of W. Irving Adams with the deepest regret. Mr. Lincoln Adams and the business associates of the late Mr. Adams have our sympathy. Sincerely yours,

"J. C. MILLEN."

"NEW YORK, January 6, 1896.

"MY DEAR MR. ADAMS: It is with sorrow that I have to-day learned the death of your father. It is for you a great loss; it is one also for everyone who knew him, for he was a good-hearted man, always ready to oblige with spontaneity.

"I deeply sympathize with you, Mr. Lincoln Adams, but I find no word to allay your sorrow; time only can partly do that.

"Yours sincerely,

"P. C. DUCHOCHOIS."

"MINNEAPOLIS, January 8, 1896.

"THE SCOVILL & ADAMS CO., New York, N. Y.

"DEAR SIRS: I am just in receipt of the New York *Press*, which gives an account of the death of Mr. Adams. It seems but idle words for one to express their sorrow at such an event. No one in the fraternity could help but admire and respect Mr. Adams; dignified, honorable, generous, and always a gentleman. It seems a great pity that his life should be cut off at this time. I learned to respect him as one of my earliest and best friends since engaging in the photographic supply business, and I shall always remember him with sincere respect. Yours very truly,

"O. H. PECK."

"ST. LOUIS, January 3, 1896.

"TO MR. J. B. PELGRIFT.

"Your telegram advising of death of Mr. Adams received at noon, and I must say I was very much shocked at such a sad and unexpected happening. I knew from you and others that he was not in the best of health, but had no idea that it was serious. Many dealers will miss his friendship, as well as all who knew him. Please express my deepest sympathies to his son and also to the firm.

"Sincerely yours,

"J. C. SOMERVILLE,

"SYRACUSE, N. Y., January 4, 1896.

"MR. J. B. PELGRIFT.

"DEAR SIR: Yours of the 3d duly received announcing the death of Mr. Adams. While it was not entirely unexpected, still it came suddenly to us, as it must have done to you. Kindly convey our sympathy to Mr. W. I. Lincoln Adams, whom we know, and to the family, as unknown.

"Very respectfully,

"F. HENDRICKS & Co."

"WASHINGTON IRVING ADAMS.—The town of Montclair was much shocked to hear of the sudden death of this respected citizen. Mr. Adams came to Montclair twenty-eight years ago, and from the first has been a valued and public-spirited citizen. In 1875 he was Chairman of the Township Committee, then the governing board of the town; for many years he was Vestryman of St. Luke's Church and helped to build the old edifice on St. Luke's place. He was a charter member of the Montclair Club, and active in other town organizations. He was a large property

owner and has shown much public spirit in improving the town." —*Montclair Times*, January 5th.

"Washington Irving Adams, for many years connected with the Scovill Manufacturing Company, and well known to many of our citizens, died of apoplexy at his home in Montclair, N. J., on Thursday afternoon, January 2d.

"Mr. Adams married a daughter of the Hon. George Briggs, formerly a member of Congress from New York City, and owner of the estate in Saratoga now belonging to Judge Hilton. He leaves one son, W. I. L. Adams, who is connected with the Scovill & Adams Company. His only daughter, a young married woman of much loveliness of character, died last year."—*Waterbury Gazette.*

"We had grown somewhat accustomed to his closed desk and empty chair, though aware of his continued kindly interest in the affairs of this magazine and the company which he has so long and so faithfully directed.

"But the end comes to us as a great shock. We are stunned, stupefied, and at a loss for words. We, his associates, who have known him longest and best, and loved him most, can but bow our heads in speechless grief at this time. We lay this tribute to his cherished memory on the tomb.

"He was good to us. He was a born leader of men. A natural leader, who endears while he commands. He asked no one to do what he was not ever ready to do himself. He labored *with us*. He was our trusted friend as well as our respected chief. Though his failing health compelled him during the past year to leave the details of active management to his trusted son, and though, as a consequence, there will be no outward change in affairs or management by his removal, we are nevertheless conscious of a sense of *personal loss*, which time cannot efface."—*Photographic Times.*

The funeral services were held at "Irvingcroft," Sunday afternoon, January 5th, at half-past two o'clock, and were largely attended by his fellow-townsmen; by the business associates from the near cities; by the Masons, and by a large circle of friends from far and near.

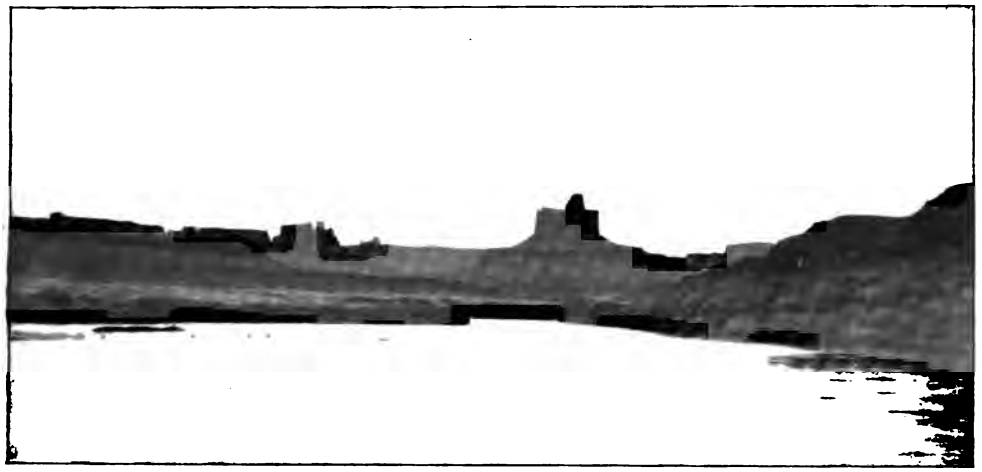
The services were conducted by his rector, the Rev. Dr. Carter, assisted by the Rev. A. H. Bradford, D.D. The beautiful and impressive Masonic burial rite was performed by a delegation of Mr. Adams's fellow-Masons from the New York and Montclair lodges. The interment was private, at Rosedale Cemetry, in Montclair.

For coloring transparencies or lantern-slides of medical subjects where the color or tint of flesh is to be reproduced, the use of aniline colors mixed with alcohol at 70 degrees is recommended as giving results superior to those obtained by the use of oil colors.

Matt-finishing for prints.—Eder's *Year Book* says that an inventor named Herr Brandeon has constructed a burnisher with a hollow roller for heating as usual, but having a matt-finish on the outside. The use of this with matt-surface prints is said to give a beautiful matt-finish to the pictures. The machine has also a highly polished roller for burnishing glace prints, and thus serves for both sorts of pictures. The plan we make use of in our own practice is simpler and effective. This is to have a perfect plane sheet of pure zinc of the same width as the rollers of our burnisher. By placing the matt surface of the print against this zinc plate, and running the two together through the burnisher, without heating, the print is shaped and given a good matt surface.

PROFILE NEGATIVES CANNED.

By FRANKLIN A. NIMS,
Denver.



F. A. Nims, Denver.

THE MOUNTAIN OF THE CROSS.
Green River, Utah.

WHILE the title refers to "preserves," yet it does not satisfy the "inner man"—at least it did not in my case—although the "fruit" would whet the appetite of the most listsome photographer in search of the strange, wonderful, and stupendous works of nature in form and color.

A French syndicate desired to invest a large amount of money in American railways. Mr. F. M. Brown, a resident of Denver, Colorado, being in Paris at the time, suggested that a railway be built from Denver through the cañons of the Colorado River to the Gulf of California, thereby opening up a section of country of fabulous richness, with a water-grade, magnificent scenery, short line, and sure to control the tourist travel across the continent.

As the survey would cover a great deal of practically unknown and unexplored territory, and the Frenchmen being unable to understand the nature of the country and the cost of building from the engineer's notes, therefore the unique idea was conceived of adding a practical photographer to the engineer corps for making a series of negatives showing every foot of the line surveyed, the pictures to correspond and corroborate the transit and level notes, thus making a record that the most ignorant could understand at a glance. It was my fortune (or perhaps misfortune, for my accident on New Year's Day laid me up for six months) to be appointed the photographer of this ill-fated expedition. Having but six days in which to prepare my outfit I hastily secured a 6½ x 8½, a 5 x 8, and a detective camera, all fitted with wide and narrow-angle lenses, roll-holders, and enough Eastman's American films for two thousand exposures. The remainder of our equipment was of the most meagre description

for our personal safety and comfort on such a hazardous journey, as we soon found out. Mr. Brown remarked to me on our first day out, "There's just danger enough to be exciting," and he really believed it, poor fellow, even to his death.

Our journey was to be made entirely by water. We were provided with six clinker-built cedar skiffs, eighteen feet long, weighing one hundred and fifty pounds each, which were overburdened with our party of sixteen men, instruments, and provisions. However, without life preservers, we left civilization at Green River Station, Utah, our only guide being Major Powell's report of his trip down the river in 1869 (this we found incorrect in many instances). I secured many negatives on the Green River, which was only a prelude, as it were, to the series of stupendous views before us. No rapids of any size troubled us, and we secured plenty of deer, duck, and fish for food. The walls of the cañon gradually grew higher, running from the gray into the brighter and richer hues of sandstone as we descended. "Labyrinth Cañon" is very winding at one point, "Bow-Knot Bend." We there travelled nine miles to gain one-fourth of a mile. On emerging, we paused in wonderment to gaze upon a gigantic mass of gray and red sandstone, "The Mountain of the Cross." On passing it, however, we discovered it to be two distinct buttes one thousand feet apart. In "Standing Rock Park" we were astonished at the striking profiles and figures that met our sight, massive in size, gorgeous in coloring, startling in resemblance, all at first appearing to have been carved by a giant's master hand. Then followed the "Orange Cliffs," brilliant in hues. In "Stillwater Cañon" it was laborious rowing to make any headway with our heavy loads. We all took a hand. Here the cañon boxes up, and the walls grow more perpendicular, until we reach the head of the Colorado River, where they attain a height of thirteen hundred feet. There we went into camp, on Major Powell's old site, having travelled one hundred and twenty miles.

The Colorado being formed at its head by the Grand and Green is there four hundred and forty feet wide and dirty gray in color. Its capacity is nine thousand three hundred and sixty cubic feet per second, with a current of six miles per hour. The elevation is three thousand nine hundred feet above sea-level.

Here ended the "picnic" part of our trip; then followed in quick succession mishaps, loss of provisions, instruments, firearms, clothing, boats, and life. Six miles below, at the head of Cataract Cañon, we encountered our first real rapid, losing one boat and one-third of our provisions. The next twenty-eight miles was a succession of rapids so close together as to be almost continuous the entire distance, winding up in a grand flourish, as it were, in "Hell's Half-mile," and the almost annihilation of our party. We were reduced to three leaky boats, scanty, threadbare clothing, soaked films and instruments, no blankets, and empty stomachs. Two weeks were consumed in making this twenty-eight miles, and my space is too limited for a detailed account; suffice it to say that we carried the survey all along with transit, level, and camera. I always managed to keep my exposed and a few unexposed films dry, but I was frequently obliged to let the sun dry out the cameras. Our only way of getting past the worst rapids was by portage of boats and cargo, sometimes for a distance of a mile. Notwithstanding our disasters we kept up a cheerful heart, overcame obstacles; success was our motto, and we trusted we would accomplish our aims. We were always mindful of the various changes of the fantastic and sometimes weird scenes that met our view.

Some of the large perpendicular cliffs appeared to have been cleft by an immense circular saw, leaving marks identical to those on a piece of green timber; again others bore traces of delicate and finely drawn designs likened to ancient tapestry; these were harmonious and rich in coloring. Then came a succession of castellated turrets, battlements, spires, pinnacles, etc., which greeted us high above in the air. Ever and anon laterals appeared cut into the main cañon. A few of them we explored, but found nothing new or startling in them.

On the face of a perpendicular rock, about eight feet above the water, we discovered this name, "I. Julien, 1836." Who was this strange voyager of thirty-three years before Major Powell's memorable trip? Powell's party was supposed to have been the first white men through these mysterious and unknown cañons.

Finally, the little flour left was baked and divided, allowing one and a half pounds to the man, which, with one pound of sugar and four ounces of coffee per man, emptied our larder. That afternoon a boat swamped and three men lost their share of rations; ours was again divided.

F. A. Nims, Denver.

HEAD OF THE COLORADO RIVER.

This scanty supply, with the addition of one duck, one hawk, and about nine pounds of fish, kept the party alive for five days, when we reached the mouth of Dirty Devil Creek and obtained supplies of some miners who were washing the sand bars for gold. From this point to Lee's Ferry, Arizona, one hundred and fifty miles, the trip was uneventful. The cañon now widened out, the walls averaged seven or eight hundred feet in height, and

were mostly of the dark-red sandstone formation, which is harder than the lighter colors, consequently more polished by the action of the elements and by time. Crossings can be made at several points, notably, "The Crossing of the Fathers," where Escalanti and other Spanish priests crossed more than two hundred years ago on their way to California.

Lee's Ferry is owned and operated by a Mormon named Johnson; here the walls break away and the vermilion cliffs extend up the Pariah Valley several miles.

We camped at this point a week, while Mr. Brown went to Kanah, ninety miles away, for a supply of provisions, blankets, clothing, etc. These were hauled in by wagons. Having but three boats now, eight of the men were sent home, and we resumed our voyage, entering Marble Cañon five miles below. This cañon is sixty-five miles in length. In the varied colored sandstone cañons above we had been amazed and pleased beyond measure, but here we were fairly stupefied at the shining massive walls, one, two, three, yes, eight and nine hundred feet high, of solid marble of every conceivable hue and color, from pure white to jet black. Everything was marble; above, below; we walked on it, slept on it, ate from it, and had we been situated so that we could, we would have carried it away. Some of it is agatized. In this we encountered some of our worst rapids and whirlpools. In one of these cañons one morning Mr. Brown lost his life by the upsetting of his boat. We tarried and searched all day, but we could not find his body. Hansborough carved on the solid marble wall his name, age, and the date of the accident—a stately monument—and five days later a similar inscription was needed for himself, as another boat upset in the swift current under an overhanging cliff, when Hansborough and Richards met a watery grave. There were but five of us now. Saddened by the loss of our comrades we determined to abandon our trip at the first opportunity; therefore, on the third day following we reached a side cañon, where we cachéd our supplies and drew our boats up high and securely fastened them. The next morning at daybreak we started with three days' rations, and at twenty minutes past one in the afternoon stood at the top of the cañon, twenty-seven hundred feet above the river. After walking twenty-four miles we met some Mormons, who assisted us to others of their faith, and they to others, and so on until we reached the railroad, whence we returned to Denver. I brought back only the lenses and one hundred and twenty exposures, the balance was lost or cachéd.

After a few weeks' delay we reorganized, refitted with new boats (specially built for us), water-tight sacks, cameras, etc., and with eight men again started to take up the survey, I had each roll of films sealed in a tin can, taking a soldering outfit along to open and reseal the cases of exposed films. We left the railroad at the same place, but carted the boats and tramped across the desert one hundred and twenty miles to Dandy Crossing (thus avoiding Cataract Cañon). There we launched and started anew. The river was now several feet lower than before. The rapids were changed; some were worse, others not so bad; new ones were added and old ones were absent. The rapids where Mr. Brown was drowned had gone and the place at this time was as smooth as a floor.

Fifteen miles below the junction of the Chiquita or Little Colorado, we entered the Granite or "Grand Cañon." While the same stratified, benched formation is seen here as above, yet it is of a more conglomerate and jumbled-up character—evidence of a more volcanic nature—looking up, up, up, we see, first, granite, then marble, limestone, quarzite, sandstone,

red, yellow, gray, and white, six thousand two hundred feet! Just think of it. More than a mile. There was an endless showing of black and gloomy shadows, red, green, and mineral stains, variegated hues and tints of flowers and foliage, prismatic hues of the marble and sandstones, strong high-lights of snow, the deep ethereal blue above, polished walls hundreds of feet high, rounded turrets, castellated battlements, towering spires, and the roaring waters—there is not another such a scene in this world. It is grand, majestic, awe-inspiring, and sublime. How small and insignificant is man; how great is Nature! Mile after mile in this solitude of grandeur, winding and tortuous, was followed with rapid after rapid, changing, yet ever the same in immensity. It was hard work. The loss of another boat was a calamity. Our lives were saved time and time again by the cork jackets. Finally, tired, weary, and exhausted we reached the Grand Wash. The accomplishments were four hundred and eighty-four miles of cañon; five hundred and twenty rapids (not counting the smaller ones); and between seven and eight hundred exposures, good, bad, and indifferent. It was a six months' outing. I had few chances to get views from above, as the scheme was to have the line follow the river just above high water-mark (which, in some places we found to be eighty-five feet), consequently I was confined to the lower cañons.

F. A. Nims, Denver.

SHIPWRECKED
In Cataract Cañon, Colorado River.

We discovered numerous ruins of cliff

dwellings. In some of them we found beans, corncobs, shreds of matting, and any quantity of broken pottery, similar to that made by the Pueblos of the present day. On the cañon walls in conspicuous places were hieroglyphics and picture writings, none of which we could interpret.

Everything was different there: the birds had brighter plumage, the bumble-bees were large and rich brown, the hornets long and bright yellow, the wasps were orange, and the rattlesnakes were small, slim, and red, with black spots. With the last and with the tarantulas, scorpions, and centipedes, we soon were on friendly terms; and the little swifts (a small species of lizard) were our constant bedfellows. Deer, mountain sheep, beaver, geese, ducks, and swans abounded. Bears, lions, and wild-cats were not very plentiful. The river gave us white salmon and squaw fish.

One of the difficulties experienced in descending this great river is the dangerous whirlpools which are generally formed by one current striking another, or an under-current against a submerged rock. They form at any and at all times, and usually break in from two to thirty minutes, generally from the same cause that forms them. Hence, we never knew when or where to look for them. They vary in size and velocity, the larger ones depressing six or eight feet in their vortex, resembling a huge funnel.

The general belief that perpendicular cliffs start up from the water's edge throughout the entire length of the cañons is a mistaken one, for fifty miles would comprise them all. A sloping talus is the usual formation; sometimes, of course, this is at a steep angle, but oftener it is of gradual ascent, formed of broken rock, gravel, or sand, occasionally grassy, and studded with flowers, evergreens, cottonwoods, or scrub-oak. It was very seldom that we were obliged to camp on the solid rock. Again, we found long stretches of quite wide bottom-land that could be easily cultivated.

Taken all in all, the journey was a most wonderful one, through the most stupendous chasm in the known world. The magnificent traceried walls, colossal sculptured cliffs, brilliant colored hues, and roaring waters, mightily impress the beholder as he gazes upon those works of the mighty Architect, colored by His master hand, and so impregnable as to withstand the elements for ages. Fantastic in design, weird in its solitude, gorgeous in color, lavish in materials, massive in grandeur, wonderful! beautiful! sublime! — there are not enough adjectives to go around.

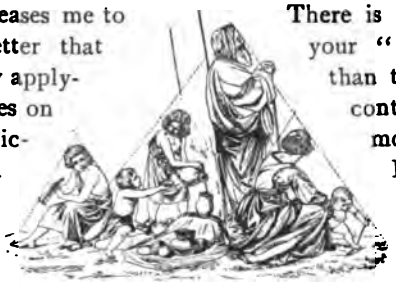
Bromide of Silver Paper as a Negative Paper.—For the past year I have made my photographic negatives of large size exclusively on Eastman's bromide of silver paper (extra rapid, thin, and smooth), and am well pleased with the technical results. Time of exposure: On sunny trees in foreground, opening *f*/50 30″; sunny clouds, opening *f*/100 1″, head studies, half life-size, with good open light, opening *f*/12 10–15″; for enlarged negatives from positives (monocle), opening *f*/60, interior light, in summer (enlargement double size), 30 minutes. Developing, fixing, washing, reducing, strengthening (uran), the same as with dry plates. Commence development with old developer; do not over-develop.

Negatives print nearly as quick as glass plates, if made transparent with oil (vaseline), and can be printed from either side.

Bromide of silver paper keeps for years, and is comparatively cheap.

The grain of the paper in large pictures and in platinum prints is not noticeable.—HANS WATZECK, *Vienna Photo. Blätter*, November, 1895.

THE APEX OF THE PYRAMID.



MY DEAR JACK: It pleases me to learn from your last letter that you have been studiously applying yourself to the articles on "A Pilgrimage After the Pictorial in Portraiture," and that you "have profited by them." You are, you say, "somewhat tangled up by the remarks about *lines*," on page 21 of the last number. You "cannot understand how the artist's maxim there quoted, *i. e.*, 'truth owns but one direct and perfect line,'" and that "the skilful management of contrast . . . . is brought about by the varying direction of the lines," etc., are to pull together. For example, you ask, "If I choose to make an attempt at a pyramidal compositon, don't you see how I am going to get hauled up?"

Dear me, Jack, are you no further than this? Why didn't you read to the last line of the column from which you have quoted, which says, "There must be variety, but there must be a whole?" That is the idea. We don't always do it in our worldly transactions, but in art we must, *i. e.*, we must seize the "whole" and work out the "variety" as we go on. I guess I had better make myself plainer to you, and so we will work up to the apex of this pyramid while we have it in hand.

Turn to page 311 of your *Cyclopædic Photography*, Fig. 169, and you will see an example of pyramidal composition copied from *Burnet's Essays*. The definition says: "A composition is not only arranged into pyramidal form, but its component parts may be divided into smaller pyramids, thus showing that the principle is carried out by the inner as well as by the outer lines."

There you have it all in a—pyramid! There is your "whole" and there your "variety" as well. More than that, within those lines is contained one of the very most useful principles of art. I have found it of such constant service to me that I have had a mental diaphragm, with a pyramidal-shaped aperture, placed permanently over my lobe, and I apply it to the majority of the pictures which come before my eyes. Do you ever notice how many objects in Nature fall in with it, and what a natural favorite it is with all picturemakers?

Such things have been done I know, but what one, who is not a pedant or a fool, attempts to compose a group after the lines of a tower, of a tree, of a house, or of a boat? If you are inclined to try such

A PRETTY PYRAMID.

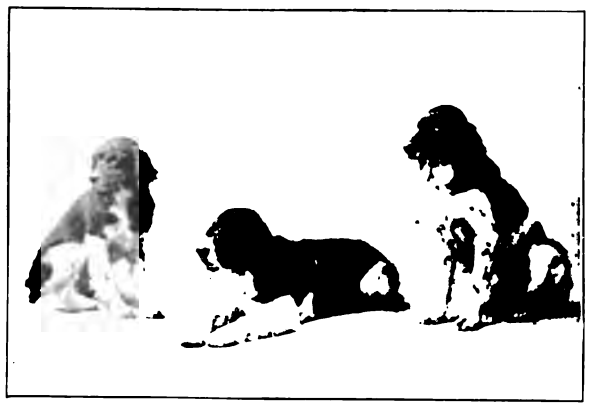
experiments, here is a pyramid of pretty little misses, with whom you may, by "variety," be able to gain fame.

A PY

You must not accept the rules and principles of art too rigidly—too severely, Jack. There is a difference between the elbow of a stovepipe and the elbow of a person, and yet both are elbows. The handle of a teapot is a most useful appendage to the pot and to us (oh! *don't* we know *just* how to get power and inspiration from it when we are camping out after a day's hard wrestle with the camera, Jack?), but it is not a thing to imitate in a picture. In all this practice we must have the senses on the alert constantly — the sense of sight, the sense of feeling, and common sense, always mixed with an abundant love for Nature.

RAMID

Now let us go into a little dissection business—or vivisection, if you please—as I propose to use a group of dogs for our subject. They came from the studio of Mr. F. M. Somers, Memphis, Tennessee, recently, and are just what we want. There has not been much "fussing" here over the lines, but then a good artist by fine feeling moved, stood at the camera to make the choice. The complete picture of the three dogs, and each individual dog is as full of pyramidal lines as is the example from *Burnet* at the head of this chapter—a "whole" and a "variety." As to this matter of feeling, you know when a knife is sharp, don't you? And when you cautiously draw your finger over the keen edge you know that the part which *pulls* the hardest against your cuticle is the sharpest, and then your feeling warns you to withdraw your finger. It is just as hard to teach one *when* to withdraw as it is to teach you when the composition of your picture is best. But you can be taught how to tell when for yourself. Have you the lesson? Rules, principles, and laws, however, will not *create* an artist. The sun does not *create* the landscape. The mountain is no higher nor the sea any wider at noontide than when at dawn they are obscured by the chill night-mists; neither does the sun add to the camera-opportunities across the moor or up, up over the rocks. Yet how they spring into sight when the wonderful work of the sun begins. Its awakening is to the landscape what the principles of art are to the picturemaker in more respects than one. Both



OF DOGS.

are a species of wizardry, and we must submit to their subtle influence while we study to understand them.

If you would succeed, you must not revolt at the idea of positive laws. Do not consider them as "fetters," but submit your genius to their control. Art is a pursuit worthy of the human mind only in proportion as the mind is employed and displayed in it. Engage the mind in studying the effects of art on the mind; how the feelings are affected through the sense of sight; how far you can resort to imitation; wherein Nature herself is obedient to the law internally and externally. Acquire the faculty of observation by correcting Nature's forms where accident may have deformed or changed them; understand the effect of all this upon your mind. Then, as you progress, you may expect to see and feel the most beautiful and most perfect of everything, and learn how to combine and arrange objects proper to the subject by the help of light and shade (and now of color), agreeably to their nature. To pursue art thus is to reach to the highest and most refining pleasure—to the apex of the pyramid.

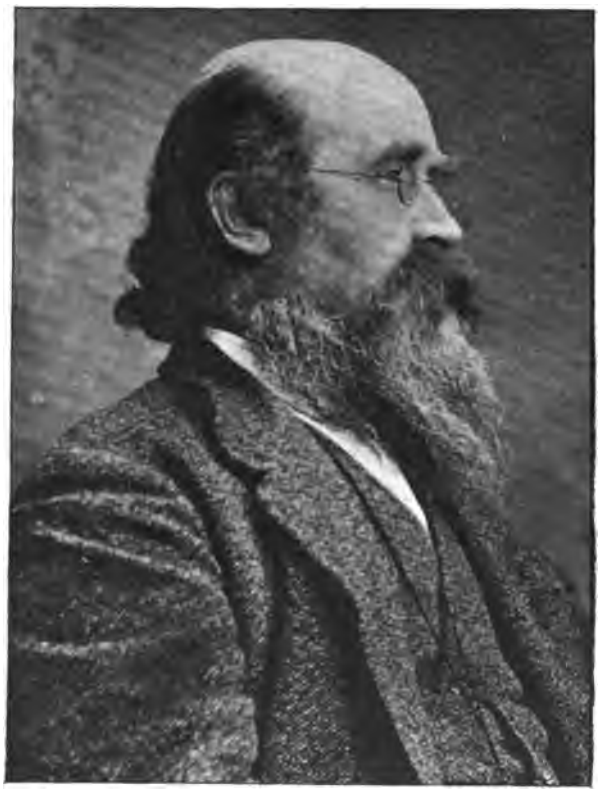
THE GREAT PYRAMID.

"WHICH IS THE OLDER?" AND "WHO OF OUR READERS IS VETERAN ENOUGH TO TAKE UP THIS CHALLENGE?"

BY JOHN NICOL,
Tioga Centre, N. Y.

HAVING noticed the paragraph in the December WILSON'S PHOTOGRAPHIC MAGAZINE, beginning with the first and ending with the second of these sentences, I am tempted, not exactly to "take up the challenge," but to say that my connection with photography is a little longer than even that of our good friend, Mr. E. Long.

From a book of "general jottings" that I have kept with more or less regularity for nearly sixty years, I find that on May 9, 1841, which I remember was a Sunday, by the aid of a smooth, flat stone and sand and water, I ground the mouth of a gallipot until it was air-tight when covered with a plate of glass, to be employed as an *iodizing box*. I was then an apprenticed chemist, and was taken into photographic colleague-



JOHN NICOL, PH.D.

ship by Dr. Murray, a then eminent surgeon, in consequence of a supposed acquaintance with the chemicals employed in daguerrotyping. On May 23d, after, as I well remember, many failures, a recognizable head and shoulders of myself was produced with a sitting, or rather leaning against the door of a summer-house, of four minutes, the doctor being the operator; I, in my turn, making a similar picture of him; and both were for some time on exhibition in the chemist and druggist establishment of W. Law, Forfar.

Subsequent entries show that, prohibited from experimenting with the doctor by the powers which it was my duty to obey, because of his proclivity to Sabbath-breaking, I was taken up by the Rev. Mr. Low, pastor of the Congregational Church, and that together we used many plates and much material with what we then thought a wonderful degree of success.

Happening to visit Edinburgh early in 1842, I got shunted on to a new track, and on the 25th of April made a print of the High street of Forfar, by what was subsequently known as the Calotype or Talbotype process. It was exhibited for some

time in the window of a stationer's shop, and doubtless there are still living many who will remember going to "Geordie" Smith's to see the "picture drawn by the sun."

But while I may claim to have been a little ahead of our friend Mr. Long in point of time, he has over me the great advantage of professional connection, while I have only been an amateur. With him the practical has been of more importance than the theoretical, while to me practice was mainly but a means of leading to or confirming theory; and although I cannot like him say that "I have had one or both feet in it ever since," I may say that since I first put my hand to the interesting plough there have been few weeks in which I have not done something connected with photography.

OUR PICTURES.

In addition to the very effective portrait study printed upon "Velox" paper, we are able to present some other interesting studies for our readers of all classes.

"The Breastplate of Gems" we made up from our own private collection. It presents to the portraitist examples of good lines, fine lighting, excellent posing, and the careful use of accessories, according to "beauty," and side by side the work of as many as five different artists from five different cities and four countries. It is, therefore, a pictorial and very choice novelty in our art. We believe it will bear studying and measuring by the rules which govern the production of good photographs. See the information given underneath the pictures.

The admirable phototype portrait of Mr. W. Irving Adams serves to complete the feeble tribute to his memory we have prepared, and will be treasured by his many friends.

OUR ILLUSTRATION ON "VELOX" PAPER.

The "Velox" print which appears in this number is printed from one single negative made by Mr. R. W. Harrison, the well-known photographer, of Selma, Ala.

The Nepera Chemical Co.'s "Velox" paper has attracted the attention of the photographic fraternity, and seems to have a great future before it, because it enables the photographer to turn out his prints in an incredibly short time, day or night, regardless of the conditions of the weather. It is different from ordinary bromide paper in as far as it will give any possible tones, and that it can be handled by full gaslight or by a liberal supply of subdued daylight, doing away with all the drawbacks and annoyances of a dark-room.

The thousands of prints for this number were printed and finished in a few days. As the days are very short at this season of the year, and daylight is very changeable, the prints were made by arc light.

Printing was done by one girl entirely inexperienced in photography or in photographic manipulations. The negative was shaded by tissue-paper, and each print required about twelve seconds' exposure. The Welsbach incandescent gaslight could have been used just as well.

The prints were developed in a large tray in which as many as one hundred could be handled at the same time. Every time a print was developed to the proper color it was dipped for one or two seconds in a bath of water containing enough acetic acid to stop toning; then it was thrown directly into a strong hypo-alum bath, in

which all the prints were fixed and in which they also received their final tone. Lastly, the prints were washed and squeegeed on ferrotype plates, so as to allow them to be bound in this number of our MAGAZINE without mounting. The following practical points may interest our readers:

The correct time of exposure and the proper concentration of the developer are two essential points without which no success is possible when using "Velox" paper. The concentration of the short stop of acetic acid and even of the hypo-alum bath are not of much importance, and their concentration may vary within very wide limits without much detriment to the final result. In order to tone the prints quickly, the hypo-alum bath should not be too cold nor too weak. A temperature of about 70° to 80° F. is advantageous, and a mixture of 1 ounce of alum to every 2 or 3 ounces of hypo is to be recommended. The bath should be strong enough, so as to indicate 70° to 80° F. by hydrometer-test. If the bath is made very hot, it will precipitate abundantly sulphur and alumina, while sulphur dioxide will be set free, which would cause a partial bleaching of the print. The hypo-alum bath should be often strengthened and not allowed to become too milky. A little milkiness will do no harm. The addition of lead acetate will cause the bath to tone much more quickly; unfortunately, the lead salts fasten themselves stubbornly to the tissue of the paper and can never be totally removed afterward even by long washing. The combined bath can be used also for toning, but the same objections as to lead salts hold good. Plain hypo-alum is about the safest of all these mixtures.

For black tones "Velox" paper can be developed directly by metol developer by the following formula, which does not require any supplementary toning. After exposure prints are thrown directly into this developer. Then after developing they are put for about five minutes into strong hypo with some alum in it, after which they are washed as usual. Excellent prints are obtained in this way in the shortest possible time and without the bother of a dark-room:

Metol Developer.

Warm Water	27 ounces.
Metol	30 grains.
Sodium Sulphite Cryst.	1¼ ounces.
Potassium Bromide	15 grains.
Potassium Carbonate	5 drachms.

Dissolve the chemicals one after another in the same order as indicated by the formula. The stock solution will keep indefinitely in well-stoppered bottles filled to the neck. For use dilute a sufficient quantity with an equal quantity of water, or more if needed.

In order to obtain pure whites with metol the developer should be properly diluted and should contain the required quantity of bromide of potassium. For producing good contrast be sure that you do not overtime the prints.

THE LENS FOR HALF-TONE REPRODUCTION.

BY F. H. WEEKS,
(Weeks Engraving Company, Philadelphia.)

IN a recent publication of his investigations into the theory of the half-tone process, Dr. Eder recommended for the purpose certain series of Goerz, Zeiss, and Steinheil lenses. This has caused some comment on the subject of lenses for the half-tone process. Mr. Levy says: "The lenses referred to *are the very best obtainable* for the work,

yet the character of the lens within broad limits has been found immaterial," and he "would not consider it advisable to purchase a new lens where one already has a good lens of the rapid rectilinear type *capable of giving a sharp image of the necessary size* at an aperture of *f*|12 to *f*|14."

There are some writers with much less practical knowledge of the requirements of the process whose remarks might create the impression that almost any lens is good enough, and who construe Mr. Levy's remarks in relation to the anastigmats, which he pronounces the *very best*, to indicate that they possess no points of merit over the ordinary rapid rectilinear lens.

A recent article in one of the publications suggests if the half-tone operator possesses the slightest knowledge of photographic optics he would be enabled to judge as to the exact requirements. There are many persons possessing more than an elementary knowledge of photographic optics who might go astray in the selection of a lens from the lack of a thorough understanding of the requirements of the process.

One might naturally suppose, on reading many of the articles on the subject, that a lens for this purpose need not give anything like the definition required for line reproduction. This is a mistake made by many from a lack of practical knowledge. I constantly have copy come to my hands, for half-tone reproduction, that requires the employment of a lens capable of reproducing the most difficult line work.

A few days ago I received as "copy" an elaborately executed steel engraving, about 24 x 32 inches, to be reduced one-half. It was a certificate of a secret society, full of fine detail.

The half-tone plate was to be used in advertising the engraving, and unless the detail was well represented would be valueless. We made the negative with our No. 8, Series III., Goerz Double Anastigmat Lens (furnished by C. P. Goerz, 52 Union Square N. Y.), and obtained a highly satisfactory result.

We frequently receive pen drawings with some tints in wash, many such as charts, etc., requiring the most accurate rendering; and a lens to be used in reproducing these in half-tone must in no way be inferior to that employed for line reproductions. In my opinion the requirements in a case of this kind are greater than for ordinary line work, inasmuch as the half-tone necessitates the employment of a sufficiently large diaphragm to give the proper effect. The diaphragm must be larger than for reproducing a photograph, the lights being equal in the copies must necessarily be the same in the negatives; but on the photograph we can give a very much longer exposure than on the drawing. In line reproduction a much smaller diaphragm may be used, and with proper exposure an excellent result produced, the same diaphragm resulting in an utter failure of the half-tone negative. Lenses of comparatively long focus are recognized as the best for screen work. But the employment of so many variations by different firms in the working of the process renders it impossible to say that any particular length of focus is the best. I have used up to 26-inch focus, but find one of 19 inch better adapted to my manner of working. On my own camera I am using a 19 inch Series III., Goerz Double Anastigmat, and we reproduce with it difficult subjects in a more satisfactory manner than with our rapid rectilinear lenses of *longer* focus. For several years I used an 18 inch rapid rectilinear lens, but to obtain the necessary sharpness on large plates it was always necessary to put on a lens of much longer focus. The annoyance of changing lenses and undertaking large work with one you are not accustomed to working regularly is not to be overlooked.

One should always select a lens capable of executing the most exacting work he can

be called upon to do, and when it comes to hand he undertakes it with greater confidence than if compelled to change lenses. In our half-tone department we have for the past six months used the anastigmats exclusively, Zeiss Series II. A. (Bausch & Lomb), and Goerz Series III., and I not only indorse the statement that the new lenses "are the very best for the work in hand," but unhesitatingly pronounce them far superior in several respects to any other lenses for the purpose. If one who takes the proper interest in his work should for a few weeks work with one of these lenses, he would undoubtedly become dissatisfied with his good old "antiquity" which has done him good service and satisfied many operators before him.

Some persons in considering the purchase of a lens reckon a prism in their calculation as an absolute necessity, and where the amount so expended is limited, size of the lens selected is sometimes scaled down to an undesirable extent to bring the total within the limit. While there is no doubt of the desirability of a prism, much of the prejudice against a mirror for reversing the image is due to a lack of knowledge of the subject. The first mirror I used was prepared for me by my friend, Mr. F. E. Ives, and we are using it at the present time with most excellent results. The principal objection to an unvarnished mirror is its liability to tarnish, and unless varnished in the most careful manner the sharpness will be seriously interfered with. Mr. Ives prepared a varnish for this purpose that works admirably. A mirror so protected and placed in the camera (in a projecting box), which is a far more desirable position than before the lens, should last a year or two. The expense of resilvering is a mere trifle. Excellent mirrors are now prepared by a Philadelphia optician, coated with the varnish used by Mr. Ives, and one of about 5½ x 8½ inches is supplied for about five dollars.

I hope to prepare in time for the next issue some illustrations demonstrating the practical superiority of the anastigmats.

THE AUTOMATIC PHOTOGRAPH CO.'S AWARD.

WITH the desire to get photographers to interest themselves in the method of printing photographs by machinery, described in our December, 1895, issue, the Automatic Photograph Co., who operate this new process, authorized us to offer $25.00 to the person who first sent to the office of this MAGAZINE the correct solution of a question proposed concerning the working of the process.

The affair awakened considerably more interest than we had looked for, and when the letters on the subject of the question were opened the task of adjudging to whom the prize should go was one of no small magnitude.

After wrestling with the matter during the best half of a day, the judging committee (Messrs. Johnstone and Rosenfeld, of the Automatic Photograph Co., and Mr. John A. Tennant, representing this MAGAZINE) awarded the prize to Mr. L. M. Ulmer, Denver, Col., whose solution of the problem was found to be correct in every detail, and had evidently been mailed within an hour or so of his receiving his copy of the MAGAZINE containing the question. This was discovered by the time allowance made according to the distance of each competitor from New York.

A check for $25.00 has been forwarded to Mr. Ulmer, agreeably to the offer of the Automatic Photograph Co.

The number of those who solved the problem proposed was about equal to the number who failed.

THE PRESENT CONDITION OF PHOTOGRAPHY AS A BUSINESS.

ANSWERS TO QUESTIONS TO THE CRAFT.

(Continued from page 15.)

THE continued interest shown in our Questions to the Craft enables us to offer another set of replies received during the past month. Like those already published, these answers are full of suggestive value to the working photographer, they offer ideas and give the result of experience along diverse lines of business getting. It is a good work, and we again express the hope that it may go on. The comments of every practical worker are invited.

Question 1:

What are the business prospects at present?

Answers:

Somewhat better than last year's. I have more calls for better class work.—J. L. Lovell, Amherst, Mass.

Never have been better since I began business.—C. E. Shorey, Lynn, Mass.

My business has been better during 1895 than since 1892, and I think prospects are still better for 1896.—Charles P. Hibbard, Lisbon, N. H.

Prospects are better with me than for some years.—J. H. Lamson, Portland, Me.

Prospects are improving. I believe that during the next ten years this country will see a great industrial boom, and photographers will benefit.—M. Herbert Bridle, Philadelphia.

Business improves at about the same rate as the country improves.—H. Siewert, Everett, Wash.

Question 2:

Do you advertise or make your work and facilities known in your locality?

Answers:

I believe in advertising, and use the home papers and all other good methods brought to my notice.—J. L. Lovell, Amherst, Mass.

I advertise all the time; sometimes more than pays or seems at the time to pay.—C. E. Shorey, Lynn, Mass.

My advertising is chiefly in my view catalogue, my business being wholly of this class. The pictures themselves advertise me wherever they go.—Charles P. Hibbard, Lisbon, N. H.

In former years I advertised extensively, and my name is well known throughout the State. At present I content myself with good work, and a frame of good specimens in our leading hotels.—J. H. Lamson, Portland, Me.

Yes; particularly by trying to put a good photograph over my name on every card that goes out of the place. We cannot *always* do it, but it is by far the best possible advertisement.—M. Herbert Bridle, Philadelphia.

[Mr. Bridle sends a specimen of his outside advertising in the shape of an illustrated poster measuring 4 x 8 feet. We trust it brought him big results.—ED. W. P. M.]

I advertise in the local papers, and give special attention to my entrance display to keep it neat and attractive.—H. Siewert, Everett, Wash.

Question 3:

Do you use orthochromatic or isochromatic plates to any extent, and especially in portraiture, and how?

Answers:

I have not used them to any extent, preferring ordinary plates and color screens.—J. L. Lovell, Amherst, Mass.

No.—C. E. Shorey and H. Siewert.

I have used orthochromatic plates (Carbutt's) almost wholly for the past three years, and find them advantageous for distant mountain view work or in making views from heights.—Charles P. Hibbard, Lisbon, N. H.

I have used them occasionally, and like them.—J. H. Lamson, Portland, Me.

Very seldom; find them chiefly useful for copying pictures and photographing fancy costumes. — M. Herbert Bridle, Philadelphia.

Question 4:

Have you found half-tone photo-engraving of any use to you?

Answers:

I have given up half-tone work personally, but often make negatives and prints for this special work.—J. L. Lovell, Amherst, Mass.

All my time is occupied with portraiture.—C. E. Shorey, Lynn, Mass.

Not to any extent; have done special work for some of our railroad companies and summer hotels for their advertising purposes.—Charles P. Hibbard, Lisbon, N. H.

I make many negatives for half-tone reproduction, but have no personal experience in the process.—J. H. Lamson, Portland, Me.

No; photo-engravers are very numerous here.—M. Herbert Bridle, Philadelphia.

No.—H. Siewert, Everett, Wash.

Question 5:

Is there an increased demand from manufacturers, merchants, railroads, etc., for large quantities of prints?

Answers:

I do not find it so in my business.—J. L. Lovell, Amherst, Mass.

My last order of this kind (in 1888) was for 29,000 cabinet prints of a baby for a Vermont firm. Since then I have rested. —Charles P. Hibbard, Lisbon, N. H.

Portraiture is my specialty, but I do what little commercial work falls in my way.—J. H. Lamson, Portland, Me.

The process firms get it.—M. Herbert Bridle, Philadelphia.

No increase.—H. Siewert, Everett, Wash.

Question 6:

How do you handle such orders?

Answer:

I charge only usual retail rates; but the hotels for whom I work give my assistant and myself accommodation free of charge, and the railroads give free transportation. All my work of this class comes from these. —C. P. Hibbard, Lisbon, N. H.

Question 7:

Does outdoor and commercial work increase and in what direction?

Answers:

The so-called amateur has ruined the professional's chances of this class of work; amateur competition, as a rule, being so severe that we cannot touch the work.—J. L. Lovell, Amherst, Mass.

I give all my time to portraiture.—C. E. Shorey, Lynn, Mass.

The amateur(?), and there are thousands of him in this section every summer, devastates this field of work.—Charles P. Hibbard, Lisbon, N. H.

No; there are too many tramp photographers around, who take a negative and supply one print for 50 cents.—M. Herbert Bridle, Philadelphia.

This branch of the business needs to be pushed, and it increases or drops away entirely according to the person who has it in charge, whether he is tactful and enterprising. I keep two assistants at it most of the time.—H. Siewert, Everett, Wash.

[Bravo! Mr. Siewert. He makes the way so plain for the country worker that "the wayfaring man, though a fool, cannot err therein." Outdoor work needs

A BREASTPLATE OF GEMS

Yvette Guilbert.
C. Reutlinger, Paris.

Virginia Harned
as "TRILBY."
N. Sarony (Copyrighted 1895).

Melba.
C. Reutlinger, Paris.

Fanny Davenport.
N. Sarony, New York.

Sarah Bernhardt.
N. Sarony (Copyrighted 1892).

Emma Eames.
C. Reutlinger, Paris.

Mrs. Kendal.
N. Sarony, New York.

Jane Hading.
C. Reutlinger, Paris.

Cissy Fitzgerald.
N. Sarony, New York.

Georgia Busby.
B. J. Falk (Copyrighted 1895), New York.

Lilian Russell.
N. Sarony (Copyrighted 1894), New York.

Algerian Girl.
C. Klary, Algiers, now Paris.

Calvé.
C. Reutlinger, Paris.

Richard Harlowe.
N. Sarony, New York.

"Harvest."
Gebruder Lutze, Munich, Bavaria.

"Winter."
H. Randall (Copyrighted 1895), New Haven.

Accompanying WILSON'S PHOTOGRAPHIC MAGAZINE, *February*, 1896.

ALBANY ENGRAVING CO., ENGRAVERS.

enterprise and tact combined with ability. Where these are applied it will be gained. —Ed. W. P. M.]

Question 8:

What seem to be the weakest points of your business; that is, those in which you would appreciate some helpful suggestions?

Answers:

This is quite too hard a question for me. There are so many weak points.—J. L. Lovell, Amherst, Mass.

The weakest point in my business is to keep it going as evenly as possible all the time.—C. E. Shorey, Lynn, Mass.

Any suggestion toward better work will be appreciated.—Charles P. Hibbard, Lisbon, N. H.

The proof and resitting question. My custom is to charge so much for every proof desired, usually 50 cents. The finished work is then charged separately. As the proofs are paid for in advance, I am thus always sure of being paid for making the sitting whether an order is given or not. The sitter always receives a receipted bill for so many proofs after the sitting. Orders for copies are dealt apart. This seems reasonable and satisfactory.—J. H. Lamson, Portland, Me.

The weakest point in the business end is —too few patrons. At the art end, too big a gap between what I want to attain and what I actually get; too great a contrast between what I see on the ground-glass and what appears in the print.—M. Herbert Bridle, Philadelphia.

[The two specific weak points given by Mr. Siewert will be dealt with in a later article.—Ed. W. P. M.]

Question 9:

Is your work satisfactory?

Answers:

More than forty-five years of experience and study have failed to bring me to the point of personal satisfaction with my work.—J. L. Lovell, Amherst, Mass.

Never was and never will be. There is always room for improvement when I see the finished result.—C. E. Shorey, Lynn, Mass.

Very seldom.—Chas. P. Hibbard, Lisbon, N. H.

Apparently very satisfactory to my patrons, for I get duplicate orders from the majority of sittings, and my duplicate trade reaches now to fully one-third of my yearly business. But I have 75,000 negatives on my shelves, and the trade they bring is perhaps only the reasonable reward of all the labor and work they have given me during many years. For myself, I do not recall a negative or a dozen prints of mine which quite pleased me, but I find more satisfaction in my work every succeeding year.—J. H. Lamson, Portland, Me.

No! never!! My motto is that line of the darkey's hymn, "Keep inchin' along, keep inchin' along;" but I try not to let my dissatisfaction with the work make me growl at the help. Constant grumbling by the "boss" spoils the good workman. When a customer praises my work I "feel good," and I know that my help appreciate a "pat on the back" as well as myself.—M. Herbert Bridle, Philadelphia.

It is not.—H. Siewert, Everett, Wash.

Question 10:

How could service generally be improved?

Answers:

Better prices; less conceit; more horse sense.—J. L. Lovell, Amherst, Mass.

By having more competent help than can often be obtained, and by giving more attention to details.—C. E. Shorey, Lynn, Mass.

By not living at the rate of $50 per week while your income is only $30; by not growling at hard times; by trying to

do the best you can under each day's circumstances, and by being more agreeable to such patrons as do come to the studio. —M. Herbert Bridle, Philadelphia.

By striving constantly to raise the standard of work; by reading the literature of our profession and *digesting* it, so that when a rainy day comes we have always something in mind to profitably fill the time; and by keeping the outside specimen display always ahead of what we *are doing* —to show what we *can* do if our patrons offer a chance. — H. Siewert, Everett, Wash.

Question 11:

What class of help is most needed—specialists or all-around men?

Answers:

For country galleries, all-around men; for large galleries in cities, specialists.—J. L. Lovell, Amherst, Mass.

Both.—C. E. Shorey, Lynn, Mass.

Plenty of sitters is the kind of help *I* need most. If I had an abundance of this class of help, the other sort of help would present no difficulty.—M. Herbert Bridle, Philadelphia.

Question 12:

What novelties in business do you find profitable?

Answers:

Platinum and aristo-platino methods have helped my business.—J. L. Lovell, Amherst, Mass.

I do not make a specialty of novelties, but keep up to date in my backgrounds and furnishings. The aristo-platino paper has done more than anything else to improve my business.—C. E. Shorey, Lynn, Mass.

Transparencies and colored work.—J. H. Lamson, Portland, Me.

The new Mantello and other mounts have helped me.—H. Siewert, Everett, Wash.

Question 13:

Do you practically find the new printing papers to give as satisfactory and permanent results as albumen paper?

Answers:

Some of them. I find aristo-platino easy to work, and, properly handled, I believe it is as permanent as albumen paper, and so with all collodion papers. But with gelatine paper, working it with separate or combined bath, we "don't know where we are" half the time.—J. L. Lovell, Amherst, Mass.

So far I think aristo-platino and aristo, jr., are as satisfactory and permanent as albumen.—C. E. Shorey, Lynn, Mass.

No, sir! not for view trade. I use albumen paper and find it preferable to any print-out paper I have tried. I use some bromide paper also with advantage. —Charles P. Hibbard, Lisbon, N. H.

As satisfactory, but not as permanent. But I find even pure platinum prints turn yellow, and artists declare this an improvement.—J. H. Lamson, Portland, Me.

No. Only the preference of the public for "shine" keeps me from going back to albumen. If we could have a paper combining the excellences of aristo and albumen, we would be happy.—M. Herbert Bridle, Philadelphia.

Gelatine papers are easy, but doubtful in permanency; collodion papers are as permanent as albumen if properly handled.—H. Siewert, Everett, Wash.

Question 14:

Is the demonstrator in your dark-room and in your printing-room a necessity to you?

Answers:

Not a necessity, but often useful, and full of pointers about manipulation.—J. L. Lovell, Amherst, Mass.

His usefulness has passed.—C. E. Shorey, Lynn, Mass.

They seldom come my way, but I am always glad to see them.—Charles P. Hibbard, Lisbon, N. H.

If not too busy, we like to see the demonstrator. They are often helpful, though I have met nuisances among them. They are not a necessity.—J. H. Lamson, Portland, Me.

No; not a necessity, and they seldom get into my workrooms. They are all gentlemen in manners, and one hates to be crusty, but often I wish they had less "staying power." — M. Herbert Bridle, Philadelphia.

He is an entertaining fellow, but every gross box of the paper he comes to push will tell me all I want to know about the product.—H. Siewert, Everett, Wash.

Question 15:

In what way do you think general business could be conducted more economically?

Answers:

This puzzles me. I wish I could say.—J. L. Lovell, Amherst, Mass.

By personal attention to every detail.—C. E. Shorey, Lynn, Mass.

By stopping leaks and keeping books systematically by double instead of single entry. This plan has enabled us to avoid waste and collect our bills better since we adopted it.—J. H. Lamson, Portland, Me.

By co-operation. What a senseless waste is apparent in the condition of affairs in our larger cities: one hundred galleries, one hundred printing.rooms—where ten would be ample. — M. Herbert Bridle, Philadelphia.

By wasting less material, and persuading sitters to order larger quantities, and by adjusting prices for profit.—H. Siewert, Everett, Wash.

Question 16:

How can this MAGAZINE be made to serve you better?

Answers:

My conceit is not big enough to offer a suggestion. The MAGAZINE is doing splendidly. Go ahead.—J. L. Lovell, Amherst, Mass.

You seem to try to improve it every issue. I can only wish you success.—C. E. Shorey, Lynn, Mass.

By continuing as it has done for the past twenty years or more that I have read and enjoyed it. — Charles P. Hibbard, Lisbon, N. H.

By continuing it as it is now or has been for the past twenty-five years. My photographic and art training has come almost wholly from its pages. I cannot suggest any betterment.—J. H. Lamson, Portland, Me.

By looking after our interests in the future as in the past. By giving details of new processes and apparatus, but not booming any manufacturer's goods.—M. Herbert Bridle, Philadelphia.

By just going closely along present lines. A little less process matter would be preferable to the purely photographic reader. —H. Siewert, Everett, Wash.

Question 17:

Can and will you suggest some topics that you would like to see treated and which we seem to have either neglected or overlooked?

Answers:

I would like to know what constitutes an amateur photographer, and what is his relation to the professional.—J. L. Lovell, Amherst, Mass.

I would like to see more practical articles on skylight work, written by the leaders, especially on lighting and posing.—J. H. Lamson, Portland, Me.

Question 18:

Do you find yourself profiting by the application of art principles in your work?

Answers:

Yes; I wish I could put more art into my work every day. It pays.—J. L. Lovell, Amherst, Mass.

Yes.—C. E. Shorey, Chas. P. Hibbard, and M. Herbert Bridle.

I do most decidedly. I find that the more art our work shows the more it pleases, and brings better orders and higher prices; and it is the best way to get rid of the cheap John and amateur competition.—J. H. Lamson, Portland, Me.

I confess myself "on the fence" about this. Somehow so many folks do not appreciate artistic work enough to pay for it. I like to make my work artistic, but I *must* make it to suit my patrons.—H. Siewert, Everett, Wash.

Question 19:

Will you favor us with copies of your printed matter, such as circulars, price-lists, proofs, notes, etc.?

Answers:

I have nothing of interest in this line.—J. L. Lovell, Amherst, Mass.

I enclose what I use, but patrons do not seem to take any elaborate directions as seriously meant.—C. E. Shorey, Lynn, Mass.

I send you the few printed slips we use.—J. H. Lamson, Portland, Me., and M. Herbert Bridle, Philadelphia.

WHAT THEY SAY ABOUT "MOSAICS," 1896.

DESPITE its bulkier and more pretentious competitors at home and abroad, the popularity of *Mosaics* as the favorite annual of the American photographer grows yearly. This growth is reasonable. *Mosaics* differs from any other photographic year-book, and its features are peculiar to itself. It is the only year-book which justifies its being by presenting a detailed résumé of all of the theory and practice of the year worthy of preservation. Its contents are not stereotyped in form year after year, but vary according to the special needs of the year. Its original contributions are written almost exclusively for Americans by Americans. Its illustrations are chosen to teach and help rather than to tickle the reader's fancy. And, again, *Mosaics* offers more information of practical value in a smaller space than any other photographic year-book.

In these few sentences we lay open the plan upon which *Mosaics* is built every year, and that the result is appreciated is plainly evident from the abundant praise given to *Mosaics*, 1896, by those who have secured copies. A few extracts from these letters we offer our readers, desiring to stimulate every photographer to possess a copy of the book and make it help him in his business during 1896.

First and foremost among the good words comes a letter from our genial co-worker, Dr. John Nicol. He says:

"I very heartily congratulate you on *Mosaics*, 1896. The old saying that 'gude gear is put up in sma' bundles' is very applicable to *Mosaics*, as, taking it all in all, as a helpful book, it is of more value than its bigger brothers. The review of the year is just full enough, without leaving out anything of importance; the articles are good, and the illustrations are fine examples of modern half-tone work. I may add that in no annual or collection of pictures that I have yet come across have I seen a couple of dozen in which there were so few of which I could say, 'What on earth *could* have induced the editor to reproduce *that*?' Like good Highland whiskey, the older *Mosaics* gets the better it is; for the 1896 volume is really better than that for last or any previous year."

"It is without exception the most practical annual of the year, and I have them all—three American and one British."—GEORGE DAVIDSON, Deloraine, Canada.

"Every page contains something valuable and timely. Success to *Mosaics!* The *most compact, handy, artistic,* and *usable of all the annuals.*"—E. L. MUDGE, Atlanta, Ga.

"*Mosaics,* 1896, is an unusually interesting volume. I opened it just *to glance over it* before beginning my day's work, but felt compelled to read several articles before I could lay it down. If photographers could be induced to *make use* of the information *Mosaics* gives they would be greatly benefited. Too often a useful article is read and forgotten before an attempt is made to put it into practical use."—GEORGE B. SPERRY, Toledo, O.

"I am more pleased than ever with *Mosaics,* every page seems to be worth committing to memory."—H. SIEWERT, Everett, Wash.

"*Mosaics* is loaded to the muzzle with good things, both instructive and suggestive."—GEO. E. TINGLEY, Mystic, Conn.

"*Mosaics* is one of the best and most practical of the American year-books, profusely illustrated with the convention pictures of 1895, and containing valuable articles by the prize-takers. It also contains a review of the methods and formulæ of 1895, and a number of practical papers on subjects of interest to the photographer."—*Canadian Photographic Journal.*

"*Mosaics,* 1896, is a beautiful and useful book. It will prove a valuable help to the photographer who will read it and use it."—F. G. SHUMACHER, Los Angeles, Cal.

"I find *Mosaics,* 1896, full of encouragement for good work and hope to follow it."—HENRY RITTER, Philadelphia.

"I have received the three annuals and find them very useful, *especially Mosaics. It is less amateurish and more practical than the others.*"—L. V. KUPPER, Edinboro, Pa.

Many more excerpts might be given, but we have said enough. Every wise photographer should get *Mosaics,* 1896. It contains 288 pages of practical information, and many beautiful illustrations reproduced from the work of Morrison, Stein, Randall, Ryder, and others. Paper covers, 50 cents, postpaid; cloth bound copies, $1.00, postpaid. Less than 800 copies (paper covers) remain unsold, and the demand for library copies has reduced our stock of bound copies to 10. Orders should be sent without delay to avoid disappointment.

EDITOR'S TABLE.

AN IMPORTANT CORRECTION.—By a slip in proof-reading the catalogue number of the camera-stand announced by Messrs. J. H. SMITH & Co., in our January number, was omitted. The stand referred to, an article of unusual merit and cheapness, is No. O in the catalogue of the manufacturers. The revised advertisement in this issue is worth attention.

VARIABLE STAR CLUSTERS.—From Prof. EDWARD C. PICKERING, of the Harvard College Observatory, we have received an interesting account of the variable star clusters discovered by Prof. S. I. BAILEY and others. Photographic charts of these have been made and will be published in the *Annals* of the Observatory. Marked photographs can now be had of Prof. PICKERING.

POSING CHAIRS AND ACCESSORIES. — Photographers following the modern plan of using artistic pieces of real furniture, instead of the imitation furniture hitherto sold for studio work, will do well to send for the list of accessories of all kinds manufactured by C. A. SCHINDLER, Box 63, West Hoboken, N. J. Mr. SCHINDLER'S specialty is the making of accessories to the orders and designs of his patrons. His prices are reasonable and his work is of a high order. Our readers can send remittances with their orders to Mr. SCHINDLER with perfect confidence in his reliability and integrity.

THE MICHIGAN PHOTOGRAPHERS' ASSOCIATION held it first annual convention at Detroit, January 15 to 17, and was a great success. A report of the proceedings will be given in our March number. Mr. C. M. HAYES and Mr. J. E. WATSON, both of Detroit, were elected President and Secretary respectively, for 1896.

THE PHOTOGRAPHERS' ASSOCIATION OF IOWA will hold its 1896 convention at Des Moines, May 5. An attractive prize list has been prepared, and, with all other particulars, can be had from the Secretary, Mr. JOHN R. HALL, Monroe, Ia. Every photographer should make it his first and chief duty to support his State association where one exists.

MR. J. W. WILLARD, for many years with the SCOVILL & ADAMS CO., has organized a co-operative purchasing agency for photographers and photo-engravers under the name of J. W. WILLARD & Co., at 25–27 Third Avenue, New York City. Through this agency everything needed for photographic and process work may be obtained on very favorable terms. The plan of the undertaking is explained in an interesting illustrated booklet published by Messrs. J. W. WILLARD & Co., who will send copies gratis on application.

A NEW FIXING BOX, called the "Universal," has been put upon the market by Mr. G. GENNERT, 24 East Thirteenth Street, New York. This box is deeper and wider at the top than the well-known GENNERT hypo box, and is also provided with a cover.

Mr. GENNERT also announces that he has a complete stock of the new Ross-Zeiss convertible anastigmats, referred to in our last number. The fine catalogue of these lenses, which Mr. GENNERT will send to those who apply for it, gives every information as to the advantages of these instruments.

A MEMORIAL TO THE LATE Mr. J. TRAILL TAYLOR, whose death while on a visit to this country was noticed in our December issue, is proposed by his many friends in Great Britain. To the fund required for this purpose photographers everywhere are invited to contribute. Inasmuch as Mr. TAYLOR had a personal interest for many years in the American fraternity, and as his burial place is in this country, we hope American photographers will contribute liberally to the memorial. The American secretary of the fund is Mr. F. C. BEACH, 361 Broadway, New York, who will acknowledge all moneys received.

HAZENSTAB'S SIMPLICITY IN RETOUCHING (H. A. HYATT, Eighth and Locust Streets, St. Louis, Mo.) is a complete equipment with simple directions for all who desire to take up the practical study of retouching as a profession. In addition to the instruction book, the outfit includes a bottle of medium, pencils, brushes, pencil sharpener, india ink, and a specimen negative for practice, ruled for work. Circulars and price may be had on application to Mr. HYATT.

THE 1896 ANNUALS.—We have still a few copies of the 1896 annuals, viz., *The International Annual* (90 cents post-paid); *The Times Almanac* (90 cents post-paid); "*Mosaics*," 1896 (50 cents post-paid); and *The British Journal Almanac* (68 cents post-paid). While our stock lasts these four books may be had post free to any address for $2.60. Orders, with cash, should be sent to the office of this MAGAZINE.

DEATH has been applying his reducing agents with relentless activity to the ranks of our veterans during the past month. Among the valued ones who have passed away are M. B. BRADY, New York; J. W. BLACK, Boston; W. D. GATCHELL, Louisville; E. P. LIBBY, Keokuk. Particulars and portraits of them could not be had in time for insertion in this number. All will appear in our March issue.

MR. H. LITTLEJOHN, for many years bookkeeper for the Scovill Manufacturing Co., and later Secretary of the Scovill & Adams Co., has retired from his old post and entered the photo-engraving business with Mr. VAN NESS as successors to H. C. BROWN. The firm name is VAN NESS & LITTLEJOHN; address, No. 80 Fifth Avenue, New York. Mr. LITTLEJOHN has a very large circle of acquaintances and is sure to succeed. He has our best wishes.

A FINE OPPORTUNITY.—Mr. F. M. SOMERS, Memphis, Tenn., offers his studio for sale, in order that a long-projected trip for needed rest may be had. His advertisement appears in Specialties; his splendid work is often seen in our MAGAZINE, and what he represents may be relied upon. There is a grand opportunity for the right man.

CHAPPED HANDS.—Often suffering with chapped hands, we are glad to inform the craft that we have found a soothing and certain remedy. It is the discovery of F. I. WILSON, 22 South Clinton Avenue, Trenton, N. J. It is in solution, always ready, and is harmless. It will be sent at twenty-five cents per bottle by the manufacturer. We highly recommend it to the suffering ones. It does not cost much to give it a personal test.

A CORRECTION.—Mr. JOHN PIKE, Leicester, England, writes to inform us that the method of stripping gelatine plates by the use of hydrochloric acid, given in our September, 1895, issue, originated in his own experiments, and should not be credited to *Apollo*, the German journal from which our article was translated. We cheerfully give Mr. PIKE the credit he claims, with the explanation that *Apollo* gave no clue to the discoverer of the method, or credit would have been given by us as a matter of course.

WE have received from the Electro Tint Engraving Co., Philadelphia, a very beautiful calendar for 1896. Every one of the twelve pages is illustrated by an engraving representing some department of the work of the photo-engraver, running from the time the order is received at the business desk until the box of finished plates is being marked for shipment.

A PICTURE in high color has been received from Mr. E. H. BERLIN, of Blairsville, Pa. It is a 14 x 17 picture of a negro mandolin player. The pose represents the subject passing the hat after the music is over, and is a splendid character picture. Although it is copyrighted, we have Mr. BERLIN'S permission to reproduce it for our MAGAZINE, so that before very long it will take its place here as an inset.

WE are indebted to Prof. EDWARD C. PICKERING, of the Cambridge Observatory, for the discovery of a new variable star of the Algol type with particulars concerning its capture by means of photography. Wonderful discoveries are being made in the heavens constantly by the help of the camera.

ROSES FROM THE SOUTH.—Our Christmas was made to receive and impart extra sweetness by the arrival of a great box of white rose-buds from the happy home of one of our subscribers in Memphis. With them came a card upon which was written: "Kindest wishes for your happiness this Christmas." The wish was granted and the sweetness goes on.

A MULTIPLE PHOTOGRAPH, showing a group of four men playing cards, two individuals only being used in making the picture, comes to us from the studio of Mr. F. PALEN, Caledonia, Minn. It is a clever example of multiple photography, and possesses more than ordinary artistic value.

TRILBY.—The most charming photographic study of this famous character we have so far seen is that produced by Mr. B. J. FALK, of our city. Mr. FALK secured for his model Miss BLANCHE WALSH, who recently impersonated *Trilby* at one of our metropolitan theatres. The picture approaches the ideal very closely, and we congratulate the fair model and the photographer upon their united success.

VIEWS of his missionary field in West Central Africa have been sent us by the Rev. WILLIAM E. FAY, one of our subscribers, through our mutual friend, Mr. F. S. SMEDLEY. They are exceedingly interesting. Mr. FAY is an indefatigable experimentalist, and in true photographer style sends us a schedule of his experiments with the history of each plate. We hope to engrave some of his pictures presently and furnish some interesting details from his notes.

MR. JAMES F. RYDER sends us a particularly attractive leaflet which he uses as an advertisement for his new studio in the Garfield Block at 121 Euclid Avenue, Cleveland, O. A new picture introduced by MR. RYDER is called the "Pompeiian." It is finished after the manner of the cartoons of the old masters. The illustrations of the leaflet are in black. We suggest that the next edition be printed in the Pompeiian color. All success to the new studio.

MR. J. B. MUMFORD, who was the first practical man of the PHOTOGENIC PAPER CO. of Albany, New York, has organized a large establishment at Springfield, Mass., for the production of several kinds of printing-out papers.

MR. W. V. ALFORD, Box 113, Garrettsville Ohio, has begun his lecture course upon Central America. His topics are as follows: "The Prehistoric Race and their Stone Records," "The Nicaragua and Panama Canals," "Central America: Its People, Scenery, Resources, etc.," and "The Valley of Panchoy or Old Guatemala." We are sure that, after almost a year's working with his camera in that direction and with the splendid material which he has brought home, Mr. ALFORD will be found exceedingly interesting and instructive.

Mosaics, 1896, is melting out of stock. A number of our usually wise photographic workers have promptly sent us $3.00 to renew their subscriptions, but they have forgotten to add 50 cents for *Mosaics*, 1896. There is yet a bare chance to secure it, friends. Help us to maintain life in this favorite annual until the fancy for the new style is over. The stock is nearly gone, and the type being distributed, we cannot reprint. Secure a copy now.

This is the substance of what the working photographer says—what they all say:

"*Mosaics*, 1896, came to hand to-day. It is better than ever. Every page contains something valuable and timely. Success to *Mosaics!* the most compact, handy, artistic, and usable of all the annuals. E. L. MUDGE,

"Atlanta, Ga."

FROM Mr. L. V. KUPPER, Edinboro, Pa., we have received another instalment of his particularly artistic views. Mr. KUPPER certainly has the sense of artistic choice largely developed. His outdoor views prove this very emphatically. They are always choice, and before very long we shall present engravings of some of them. His high appreciation of our noble art-science is proven by his work and we congratulate him.

FROM Mr. E. L. MUDGE, Chattanooga, Tenn., we have received some excellent views of the Atlanta Exposition. Mr. MUDGE has a large collection of these, the 4 x 5 and 8 x 10 size, and from his negatives will supply prints and lantern slides. He is an expert in the production of the latter, and now is the time to order them. His day and night effects both are very charming, showing good choice and careful work. In our next number we expect to present engravings of some of them. Accompanying these is one of a group of negro boys passing through the various stages of a sparring exhibition. This was made by Mr. F. G. HOWE of Atlanta. It is a capital natural picture. See our next number.

PHOTOGRAPHERS who are planning to attend the P. A. of A. Convention at Chautauqua during the coming summer, and intend to enjoy themselves at that beautiful holiday resort, should take a portable boat as part of their camping-out equipment. Mr. GEORGE W. LEAS, Peru, Ind., offers a portable boat at a reasonable price, and will send an illustrated description of it on application.

"WEIGHING THE BABY."—This is the title of a very cute 8 x 10 photograph sent us by Mr. F. M. SOMERS, Memphis. The mother and the grandmother are the inspectors of the scales, and the plump baby hangs midair upon one of the dishes of the instrument, opposed by the heavy weights on the other side, while near at hand stands the smiling grandfather awaiting the verdict. It is a familiar home subject photographed with wondrous naturalness.

ONE of our best contributors says, "I think the future of photo-mechanical methods lays colorward. The black half-tone will be dropped for tinted and color work." That our friend is more than a prophet we shall be able to prove to our readers before long by means of some astonishing results in this reach of process work. The same correspondent says, "The field of art already widens every day and you can safely teach its precepts for years to come."

FROM Mr. H. RANDALL, Ann Arbor, Mich., we have received some exquisite pictures made by electric light. We cannot see how anything can be more perfect and soft in light and technique. The effects are beautiful. The prints are made on mat-surface paper.

ONE OF MANY.—I hand you postal note for $3.50 to cover my subscription for 1896 and a copy of *Mosaics*.

Although I am engaged in another line of business, photography is my pastime and hobby. Your MAGAZINE keeps me in line and I hope to be on your list as long as I live.

Your December number alone was worth $50 to me. I wish you a merry Christmas and a happy New Year.

STUDEBAKER BROS. MFG. CO.

SOUTH BEND, IND., Dec. 24, 1895.

THE N. P. A. Executive Committee met in Jamestown, N. Y., last month and decided to hold the 1896 Convention during the second week of June.

THREE-COLOR NEGATIVES BY
R. D. GRAY, New York.

FROM THE HEIGHTS OF LUGANO.

ENGRAVED AND PRINTED BY
Photo Colortype Co.,
Chicago.

Accompanying WILSON'S PHOTOGRAPHIC MAGAZINE

WILSON'S

[illegible]TOGRAPHIC MAGAZINE.

EDITED BY [illegible]
JOHN [illegible]

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ON THE [illegible]

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WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. MARCH, 1896. No. 471.

ON THE GROUND-GLASS.

THE suggestions which have appeared in this MAGAZINE recently regarding the choice and use of "accessories" have caused a great many reflections to appear upon *The Ground-Glass* concerning the influences of environment. The portraits produced by some photographers are bad because the patrons look as if they were suffering from a fit of depression. This is entirely due to the environment of the photographer and his studio. With this may be classed the general appearance of his studio and the furniture thereof, both in quality and quantity. Ancient writers tell us that the character of the people of all nations was influenced by the country in which they lived. This is a wide view of the matter, but it may be made to apply to the consideration of the studio also. Recently we were impressed by a part of an address made by Mr. Joseph Jefferson to the Normal College, wherein he gave us a hint on this subject; referring to his plays and their success he said: "I beg you to remember, if they have afforded you entertainment, that I was then surrounded by a company of talented actors and by the stage setting, all of which helped the effect. We all know how much attention is given by our best actors to the setting of a piece upon the stage, and should take a lesson and apply it to our work"—to the environment of the play.

The Ground-Glass has often noticed that some photographers are like frogs. There are a great many queer things about frogs. Among other things they do they live largely by their power of absorption. It is well known that a frog can soak up half its weight of water in an hour. The soaking power of the frog is what gives it such a cold, clammy, and uncanny feeling when you handle it, and this explains a strange thing. Though a bullfrog were poked with a red-hot iron it would not feel it enough to move out of its tracks, because the moisture which it has absorbed takes time to heat through; so, the absorbent propensity being kept up, heat could not give the animal pain, that is, dry heat. But if hot water is dropped upon him he will instantly jump from pain, as moist heat at once strikes into the skin. Somewhat thus is it with photographers of a certain class. These soak and absorb all they can get from their patrons, and, by this habit, prevent themselves from receiving by means of magazines, conventions and other methods of instruction such help as would make them greater fame and larger fortune. Everything in the line of suggestion for

improvement acts upon them as a red-hot iron upon the frog, for they do not feel them. An occasional process seller only can make them jump right into hot water.

The Ground-Glass has often been asked if there is any end to the possibilities of photography? This frequent query seems to be an outgrowth of the suggestions made in the last *Ground-Glass*. It would hardly be safe for anyone to say that there *is* an end to the possibilities of photography. It seems to be a little universe of itself, much of which is yet invisible. It is not so very long ago that astronomers knew of the existence of but comparatively few of the planets. Now the number of known inhabitants of the heavens is uncountable. Photography may seem to be only a limited heaven to some of us; yet, undoubtedly there are many discoveries to be made therein. Anyone skirting the neighborhood of a large city by night, and insisting on forming his ideas of that city from the distant lights that he can see on shore, imagining therefore that he has seen it all, makes a great mistake. We all know that for every such light there are hundreds of others that are not seen, and indeed thousands. Their existence (because of our own knowledge we know it) is sure. So indeed it may be with the undiscovered fields of photography. There may be many stars contained in the heavens, therefore, that are invisible and unthought of, yet they may presently astonish us. In astronomy there are tens of thousands of stars which are visible in the smaller telescope, hundreds of thousands of stars visible in the moderate telescope, and abounding millions which are being discovered by the mightiest instruments, and represented on our sensitive photograph plates. Each star thus made visible is, as it were, a luminous beacon around which move many times more than we have suggested. We may not look for such a great showing from photography, yet we may look for great things continually. This is no dizzy flight of the imagination. Those who, without knowledge of our blessed art's future, guess constantly as to what is coming and discuss constantly this subject.

Here are some of the outpourings of a Mr. Story, who some time since read a paper before the Camera Club:

"Photography is a copy, but art is an invention. Art was not only the invention of the human brain, but the work of human hands guided by intelligence—by intelligence which is, perhaps, frequently aroused by feeling that is earnest and often capricious, and by taste which is not always good taste, so that art, with all its shortcomings and imperfections, is still invention; it is still a labor of love; it springs from the heart and enlists our sympathies because it is human. The ordinary run of photographs are unsatisfactory from an artist's point of view, as nothing is left out, nothing is suggested, nothing is left to the imagination; and they are so full of minute details that a strong magnifying power is required to examine them. The camera takes things as they are. When they are selected with taste and judgment, beautiful results are obtained; but the attainment of beautiful results takes time, and then comes in the circumstance that it does not pay."

No photographer has become so maddened as to deny the educational view of the fine arts. If the earnest workers at the camera were not constantly hungering and thirsting for instruction from the fine arts, it would be true that there is no art element in photography whatever. Photography most certainly affords the widest scope for the application of art principles, even including that wonderful faculty which some artists think only comes to the divine brush-user, *i. e.*, Imagination.

But by the works of its votaries is it known.

Of course the operator must possess imagination, if he would become an artist, and so must a writer, if he would have success. If he is not sure that he has it, here is a bit that will perhaps give him some light as to what it is to have it:

"Mr. Alma Tadema has just finished a splendid sunlight landscape, which will be shipped immediately from London to New York, not being exhibited at all on the other side. The painting, which is entitled 'A Coign of Vantage,' is described as representing the summit of a lofty marble tower overlooking a calm sea, between picturesque and rocky shores, which is half veiled in vapors which reduce the opalescence of its surface and almost hide the horizon, but hardly, if at all, obscure the sky, its soft and steadfast clouds, or its firmament like a pale turquoise. At the outer angle of the tower, seen foreshortened, with its back toward us, and raised considerably above the line of the parapet, is a huge bronze statue of a lioness couchant and gazing seaward. Grouped between us and this dark sculpture—so that their light dresses and bright carnations contrast strongly with its intense darkness, its sombre tones with their brilliance, its greenish black with the pale roses, lavender, and warmer white of their attire—are three beautiful damsels, the nearest of whom, leaning on the parapet, looks downward on the sea flowing at the tower's foot, where, far below, a procession of war galleys is sweeping past. The maiden's intense expression seems to indicate that she hopes to detect a lover among the crew of the nearest vessel. The other girls are nearer the lioness and further from the parapet than their companion. They seem to be observing her movements, and they are certainly less interested in the ships. The perfect elegance and animation of the damsels make them even more charming than Mr. Tadema's maidens expectant of their lovers usually are."

It is true that all the fine arts are arts of expression; the eye and the ear are addressed by expression as shown in beautiful or impressive modes. It is the endeavor of all to awaken sentiment or emotion. It is the end of all, and the imagination of the artist is the origin of all, since from it they derive those forces by which they appeal to the imagination of the spectator or hearer. The poetical faculty comes from the imagination, and therefore the works of fine art—as the works of a poet in that limited but true sense in the faculty of creation—may be ascribed to imagination. All ennobling and civilized sentiments come from the imagination. By it our sympathies are quickened and enlarged; all experiences are interpreted, and promised forms of beauty accommodated to the attainments and enjoyments are shaped by the imagination; therefore we should cultivate those great gifts through the study and knowledge of the works of the fine arts. If we would become better photographers we must study these. There are little enough opportunities to do this afforded to those who watch the reflections from our humble *Ground-Glass*, and it is for that reason that we make effort to suggest what little we can for the help of our craftsmen.

Art is for the world. This was maintained not long ago by the lamented artist, Hovenden, whose sad death we recorded but a few months ago. Listen to his words of wisdom.

"To teach the public to appreciate technical excellence is an impossibility. Indeed, technical excellence is a very shifting of getting technical knowledge; or do we mean education *in art* by the messages that art brings—the moral education—the

development of the love for the beautiful in the world around us which before had not been fully appreciated, sending us back to nature with greater love for it than we ever had, developing in all of us something of the artist, the power to get so much pleasure from nature at all times and under all conditions.

"Art is for the world. It undoubtedly is. Artists can only judge of our skill as artists. The public only are the unprejudiced judges as to the best use of their skill. I assert that it is an assumption of authority when the artists take the public's place as judge and exclude them completely, as the art for art's sake men do—indeed, most of us do. Art is for the world. The Almighty willed it so. I say this in all humility, but I consider it one of the most self-evident truths we have."

It has come to the surface of *The Ground-Glass* that there are instances of the art capabilities of some photographers being entirely a matter of imagination. Such works are like some readers who attempt to elocute in public before they understand the first principles of dramatic expression or even know how to use their throats with proper regard to health. This class of photographers you will meet at his studio door in eccentric dress, with an uncombed approach to Padrewiski hair; with bags under his eyes and an inconsolable-looking nose; brutal manners and "impressionist" inclinations. He will only photograph you "as others see you." You are to be photographed as you are or to be walked out of his studio. He assumes to know what will make you appear best, and therefore meets you as the ring-master meets the trained animal in the ring, ordering you about according to the impression he receives on occasion. This sort of person imagines that the public will stand anything from him, and does very strange things. It cannot be said that he is an agreeable person, neither can it be affirmed that he has any good prospect of permanent success, or that he will ever do anything very great in art. Probably it is best to let him alone and permit him to work out his own ideas. He certainly will not harm anybody but once, and then perhaps not very much. To act in a refined and courteous and gentle manner, however, is, assuredly, one of the fine arts.

EXECUTIVE MEETING OF THE P. A. OF A.

THE Executive Committee of the Photographers' Association of America met at Jamestown, N. Y., January 20th to 22d, inclusive. President R. P. Bellsmith, Treasurer C. M. Hayes, and Secretary J. Will Kellmer were present. After the minutes of the Detroit Convention had been read and adopted the resignation of Second Vice-President W. J. Root was received and accepted. Mr. George T. Bassett, of Indianapolis, was chosen to fill this vacancy. Motions were then proposed and seconded that the outstanding accounts for floor space at the late convention, amounting to $290, should be collected; that 2000 copies of the constitution and by-laws of the Association, with the changes made at Detroit, list of officers, members, etc., should be printed and mailed to all members, the cost of this to be defrayed by advertisements received from manufacturers and dealers, and that the bill of the Bigelow Flash Machine Co. should be settled. The meeting then adjourned for the day.

At the second day's meeting it was appointed that the 1896 Convention of the Association should meet at Celeron, Chau-

tauqua Lake, N. Y., June 22d to 27th inclusive. This early date was chosen because the local conditions are most favorable at that season. It was then resolved to divide the territory covered by the P. A. of A. into four sections for the purpose of encouraging competition. These divisions will be known as the eastern, western, middle, and southern, each division to have a separate set of prizes in all competitive classes, and the prize exhibits in Genre and A classes of each section to be at once entered in competition for the Grand Portrait and Grand Genre prize.

The eastern division of the Association is to consist of the following States: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, Maryland, New Jersey, and the Dominion of Canada.

The western division comprises the States of Washington, Oregon, Minnesota, California, Idaho, Utah, Arizona, Montana, Wyoming, Colorado, New Mexico, Nebraska, Kansas, Missouri, Indian Territory, Texas, North and South Dakota, Nevada, and Oklahoma.

The middle division includes the States of Wisconsin, Iowa, Michigan, Illinois, Indiana, and Ohio.

The southern division embraces the States of Arkansas, Louisiana, Mississippi, Alabama, West Virginia, Delaware, Tennessee, Kentucky, North and South Carolina, Florida, Virginia, and Georgia.

The members of the P. A. of A. in each division are to compete separately in the following classes, with the understanding that the first prize-winners of the genre class in each division are to compete for a grand prize, consisting of a bronze figure piece. The first prize-winners of each division in Class A are also to compete for a grand prize, consisting of a silver loving-cup. The exhibits winning these two grand prizes are to become the property of the Association to form a permanent exhibit. Special attention is called to the fact that one-third of the possible points in the genre class are given for originality.

This plan affords the members of the Association an equable chance to compete with the fraternity of their own sections, without the interference of the work of members in outside territories with whom they do not compete in business. It also encourages competition by selecting the best work of all sections for the grand prizes which are open to all sections equally.

List of Prizes.

Genre Class. Three pictures, thirteen inches or larger, on any matt-surface paper, subject to be chosen by the photographer, the title to be appropriately inscribed on each picture. To be framed at the discretion of the exhibitor, with or without glass. One gold medal.

Class A. Twenty-four pictures, six pictures to be sixteen inches or larger. One gold medal, one silver medal, one bronze medal, and one diploma.

Class B. Six pictures, thirteen inches or larger. One gold medal, one silver medal, one bronze medal, and one diploma.

Class C. Twenty-four pictures, ten inches or smaller. One silver medal, one bronze medal, and one diploma.

Class D. A rating competition, twelve cabinets only. First prize, one silver medal, and to all receiving twenty-one points or over a bronze medal.

Class E. Landscape, with or without figures, marine views or interior, thirteen inches or larger; six pictures. One silver medal, one bronze medal, and one diploma.

Class F. Landscape, with or without figures, marine views, or interior, ten inches or smaller; twelve pictures. One silver medal, one bronze medal, and one diploma.

Class G. Combination pictures—three combination prints, any size. One silver medal, one bronze medal, and one diploma.

Class H. Commercial work; twelve pictures. One silver medal, one bronze medal, and one diploma.

Class I. Most tastefully arranged exhibit. One diploma.

Class J. Foreign exhibit. Best collection of photographs, any size, framed or unframed, to be delivered to the Association free of charge. One gold medal, one silver medal, one bronze medal, and one diploma.

Rules and Regulations Governing Competitors.

1. All competitors must be members of the Association.

2. Exhibitors cannot compete in more than one of the following classes: A, B, C, or D. All photographs for Association prizes must be made from negatives taken since the last convention.

3. One dimension given applies to either length or breadth of pictures in all classes. This rule applies to the size of the print and not the mount.

4. Should any exhibitors using his or their influence in any way, directly or indirectly, with judges during their term of office in favor of any exhibit, it shall be the duty of the judges to strike their exhibit or exhibits from the list. All exhibits must be framed with or without glass. The committee suggests a one-inch oak frame.

5. Ten marks to be the highest given for any one point—consequently thirty points is the highest that can be given to any one picture.

6. All exhibits must be shipped to Jamestown, N. Y., in care of P. A. of A., by June 15th, and all charges prepaid.

7. Entries for art department to close positively June 10th. No space will be allotted after that day. Application for space in this department must be made to George T. Bassett, Second Vice-President P. A. of A., No. 40 N. Illinois Street, Indianapolis, Ind.

8. All art exhibits must be sent to George Steckel, First Vice-President P. A. of A., Jamestown, N. Y., and all charges prepaid.

9. Exhibits for stock department to be shipped to J. Will Kellmer, Secretary P. A. of A., charges prepaid, to Jamestown, N. Y., and placed in position by 10 A.M., June 22d.

10. Have your box covers screwed instead of nailed, put your home address on under side of cover for return of pictures, put screw-eyes and picture wire in box, and ship your exhibits early.

11. All boxes and packages will be accepted at any time previous to the convention, so that photographers need not feel any uncertainty about the safety of their goods. No exhibits will be allowed to be removed from the hall until the close of the convention.

12. All these rules and regulations will be strictly adhered to.

Appointment of Judges.

1. Three judges to be appointed for each division by the Executive Committee and their identity to remain unknown until after the awards are made.

2. Three judges to be appointed for the grand genre, the grand portrait, the foreign, and most tastefully arranged exhibit, by the Executive Committee.

At the third day's meeting of the committee the reports of the secretary and treasurer for 1895 were read and accepted. The proposition of the Celeron Amusement Co., offering to rent the auditorium, with band and all privileges, for the use of the convention for $300, was considered and accepted. The following committees were appointed:

On railroad facilities, President Bellsmith and Treasurer Hayes; on medals and prizes, President Bellsmith and George T. Bassett. The bond of the Treasurer, Mr. C. M. Hayes, for 1896, was considered and accepted, the bondsmen being Messrs. George H. Russell and George R. Angell, Detroit, Mich. The meeting then adjourned *sine die.*

Those who desire further particulars should address the Secretary of the P. A. of A., Mr. J. Will Kellmer, Hazleton, Pa.

It will be noted that the reports of the secretary and treasurer, usually sent to the journals for publication, are withheld this year.

THE MICHIGAN PHOTOGRAPHERS' CONVENTION.

THE first annual convention of the newly organized Photographers' Association of Michigan was held at Detroit, January 15th to 17th, under the Presidency of Mr. George H. Fowler, of Charlotte, one of the prime movers in the formation of the Association. The convention was a great success, being well attended and enthusiastically supported throughout.

At the first meeting Mr. C. M. Hayes, Detroit, read a short paper advocating a liberal exchange of ideas by the members present, and the value of the State Associations to the progressive photographer. Mr. C. L. Weed, the founder of the Association, then presented the Association with a silver loving-cup, which is to be competed for each year until twice won by the same photographer.

An important matter discussed by the convention related to the closing of business places on Sunday, the sentiment of all present being strongly in favor of Sunday closing. Eventually a committee was chosen to secure the passage by the State Legislature of a bill to accomplish this end.

After choosing Detroit as the meeting place of the 1897 convention, which is to be held on February 2d of that year, Mr. Charles Hetherington gave a short talk on picture-making and general manipulation. Considerable time was given to the discussion of the ownership of the negative, which ended in favor of the photographer; after which the convention passed a resolution upholding the course pursued by one of the members of the Association who had refused to deliver up a negative demanded by a customer who desired it for enlarging purposes.

In the evening the conventioners gathered at the Art Museum to listen to a lecture by Prof. Griffiths on "The Relation of Art to Photography," after which they adjourned to the Light Infantry Armory, where they were "lunched" by Mr. Geo. R. Angell, and passed a few hours in social enjoyment.

At the election of officers for the ensuing year Mr. Clarence M. Hayes, Detroit, was chosen for President; C. E. Heath, Grand Rapids, First Vice-President; E. S. Tracy, Jackson, Second Vice-President; J. E. Watson, Detroit, Treasurer; and A. G. McMichael, Detroit, as Secretary. These officers form the Executive Committee of the Association.

Papers were read on "Retouching," by Frank L. Clark; on "Platinum Toning," by C. L. Weed; "The Treatment of the Subject," by J. Ed. Rösch; and "The Artistic Part of Photography," by J. Steffins. The prizes were then awarded to the successful competitors in the Art Exhibition, which comprised a collection of excellent work. Messrs. Arthur & Philbric, Detroit, secured the silver loving cup.

After a short, informal discussion on the

treatment of "fakirs," etc., which proved barren of definite results, the convention was adjourned until February, 1897.

A special feature of the convention was the "School of Photography by Practical Demonstration," conducted by Mr. Hetherington, under the auspices of the American Aristotype Company.

VALUE OF ASSOCIATIONS.[1]

It seems hardly necessary, at this day and time, that anyone should be called upon to show the value of conventions in any walk of life, but more especially in ours, which combines so much of the artistic with so much of the business phase. The great idea of the times is centralization; we find it in business, in the immense trusts and combines, which are nothing more or less than perfected conventions of the highest type; we find it in the social world, where the classes naturally adapt themselves along the lines of their personal likes and dislikes; and we find it in the politics of the world, and in labor circles as well.

A convention, which, in its primary meaning, is a coming together, is a part of civilization, a part of progress, and an important part. Every being that has the power of conveying feeling by sound feels the need of associations, and associations are conventions of the simpler type. Men cannot meet without exchanging experiences, and all talk is but the exchange of men's experience, either real or imagined. The wisdom from books is not the practical wisdom of the world; it is the wisdom from experience that makes successful men —men who profit by the mistakes as well as the work and success of others. This, then, is the first object of a convention, and in this object there is the meat of what is sought after. "In much deliberation there is much wisdom," says some old proverb-maker, and he puts in a nutshell the value of conventions. In every word spoken there is a hint, in every experience detailed a suggestion for the future, and, if we can but grasp these potent facts, we must acknowledge that we have received good from the convention, and the amount of good received is dependent largely on each one present.

Men who travel along the beaten track —who get into a rut, as it is called—never either improve or advance; they crystallize, so to speak, and each year of this crystallization hardens the crust and makes the man less open to the suggestions that would aid him, and, it may be, start him on the road to success. It is not given to any one man to know it all; but in these comings together, these conventions, we get in a short time what some others may have spent years to obtain.

There is no loss of time to the man who will properly appreciate the value of such a meeting. A simple formula will serve to make all of us get the greatest good out of this meeting; and I would state it in this wise: Mix a little application with a vast deal of comprehensive listening, and to it add willingness to learn. When this is at the right condition flavor it with a determination to profit by what we hear and see, and then we will find a convention a most delectable dish, and one that will not only increase our appetite for conventions, but also our capabilities for appreciating the value and profiting thereby.

C. M. Hayes,
President Michigan Photographers' Association.

[1] Read at the first convention of the Michigan Photographers' Association, Detroit, January 15th to 17th.

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IN THE HAREM.

A FEW RAMBLING REMARKS ON THE MICHIGAN PHOTOGRAPHERS' CONVENTION.

BY JEX BARDWELL.

THE first thing that engaged my attention on entering the large hall of the Museum of Art, in which the Association held its business meetings, was the large number of photographers present from all parts of the State, all paying strict attention to the business before them. It was only toward the end of the session that you might observe the membership dividing itself into groups under the leadership of some enterprising spirit, said groups representing the positive and negative end of the question then before the meeting. With two exceptions the meeting of the Association was a grand success, both in a business point of view and as to the grand exhibit of work by its members. The two exceptions will be noticed further on. The room in which the exhibits were hung was large and well lighted. The admittance being free to the public, it was at all times well filled; and when the judges had the room cleared of spectators, the better to conduct their work, it was extremely difficult to keep the crowd from removing the barriers, so great was the desire to see the pictures. The number of exhibits was large. In fact, many more pictures were sent than were expected. The hanging reflected much credit on those having it in charge. The work in the different classes was so evenly balanced that the judges had no little difficulty in making their awards. I honestly believe that there was not a frame in the lot that was not a credit to the maker. The exhibition was a grand success. The annual meeting has come and gone, and has left its impression. I do not wish to criticise a single picture. The judges made their awards. They appear to have given satisfaction to the non-exhibiting members, and that is enough. It was very evident that the exhibition of the photographs worked a deal of good, for at all times one could find more or less of the members in small groups discussing the good and bad points of some of the exhibits. Two young ladies had come to the convention from an inland city (Marshall), who had the misfortune to have their gallery and all its contents destroyed by fire some two weeks ago, yet they told me they could not resist the desire to come and obtain such pointers as would be of benefit to them in their future work. A young man had a frame on exhibition not, as he said, expecting a prize, but that he might see his work by the side of better work, and by comparison see where he could improve his own. This is the kind of spirit that will insure the future of our conventions. At one end of the room was the exhibit of Prof. Able (a lot of photos), small, it is true, but technically perfect. "Yes," in answer to a question, "they are *my own work from beginning to end.*" At the other end of the room was the really fine and large collection of Prof. Blank. He was not at the meeting, and desiring to see him personally I went up the avenue to his place and found him at his desk. I asked him why I had not seen him at the convention! "No need of that," he answered; "my work will speak for itself—it will add to these," alluding to several gold, silver, and bronze medals lying on his desk. Desiring a point on a special frame, he replied, "You will have to see my operator," at the same time pointing to a heavy curtain that separated his office from the gallery proper; "I have nothing to do with the work!" Will our folks kindly put Prof. Able and Prof. Blank in the scales of justice and see how they

stand? Will they also kindly lift the heavy curtain and let us see the men who did the work and brought those gold, silver, and bronze medals to Prof. Blank's desk?

The convention appointed a committee to influence legislative action by the State Government to close all galleries on Sunday. There are two sides to this question, so far as our city is concerned. Being a large manufacturing town there are a large number of young women working in the factories and young men in the shops who cannot afford to stop work for a day; therefore there is a large trade done by small galleries on Sunday. Should they be closed on Sunday they would have to close up entirely. The promoter of this movement has a first-class gallery, and has no need of Sunday work; and, being a Y. M. C. A. member, you would think his Christian spirit would allow his poor fellow-craftsmen their Sunday work when it supplies bread and butter for the rest of the week. He does not object to having his milk or his Sunday paper delivered on Sunday, or to the street cars running to save walking to his church; that is another matter. The same parties wanted a committee appointed to look after a bureau of information, but on investigation it turned out to be a detective bureau, to inform members of fakirs who sell processes, and to keep a blacklist for the benefit of members. All this is a sad reflection. The Association, as I look at it, is organized for the advancement of its members in the actual practice of the science and its technical aspect. C. M. Hayes gave an address on the "Value of Associations," Prof. Griffith one on the "Relation of Art to Photography," and Frank C. Clark another on "Retouching." Each received the greatest attention, and every address was much to the benefit of the members. The only pity was that there was not more of their kind. Charles Hetherington had a class on posing, and Clarence Weed gave a demonstration of platinum toning. The convention has been a big success, and I have no doubt the incoming officers will endeavor to steer clear of all side issues. The Committee on Awards made their report. Interest in the meeting began to fall off. A motion being made to adjourn, the convention closed. The past officers and the committees who had charge of the arrangement worked hard and successfully to make things pleasant, and they should have received a hearty vote of thanks, but in the hurry—!!!!????

WHAT COLORS SHALL THE CHROMATIC PRINTER USE?

BY C. ASHLEIGH SNOW.

To the Editor of WILSON'S PHOTOGRAPHIC MAGAZINE:

It is time that some experiments were tried in the line of more artistic color productions than have of late appeared.

The Studio recalls some of the color efforts of forty years ago, and says: "To take a process block from a *painting* and print it in emerald green, magenta, violet, or blue is nothing short of an outrage upon taste, and, if the picture be not beneath it, an insult to the artist. Yet it would seem that such typographic atrocities are in favor with periodicals that otherwise maintain a high artistic level, and so a protest should be entered against a custom which has nothing to plead in its defence, for it is not even novel." Another magazine, also "maintaining a high artistic level," states that "to secure brilliant prints the lines of each color should run in one direction only. Blue (for some occult reason first named) must be printed horizontally. The red (again named second,

for some reason known only to the editor) lines should incline to the left hand, while the yellow lines (last named) should incline to right hand, and then the crossing of these lines at the angles formed yields brilliant prints, and with no difficulty." The magazine presents no reduction from a painting or a landscape produced in this manner, but it does give examples of the proper type colors to use—a muddy bronze blue, a degraded burnt-brick red or magenta, and a chrome yellow. Some squares are shown, as a "red-yellow," then a "blue-red," next "blue-yellow, and, lastly, a "blue-red yellow."

History does not record whether the edition was run off in these colors, but I think that the printer in all probability was a "blue-red" fellow if he followed such advice.

Every craftsman knows that the order in which colors should succeed each other is very important. He should know, too, that a dirty bronze blue and a magenta red have no place in a pictorial work. Such shades are admissible in flat decorated tints alone. For good results the yellow should be printed first. It should be broken with some white. The red printed second, and it should be broken with some orange.

The blue follows last. It should be broken as the subject demands. Sometimes a bit of umber is needed. Again some white and some green, or some gray or white and black. A good pearly gray is one-third black, two-thirds white, and a dash of yellow, a dash of green, and a bit of red.

Let any printer try his blocks with a bronze blue, a deep magenta red, and an ochre yellow. Then reverse, wash up well each time, and run yellow mixed as I indicate: Red broken as above, and blue last broken as advised, and compare results. The blue of sky must never be obtrusive, and mid-distance soft always.

AN ANSWER TO MR. BACHRACH.[1]

BY DR. LEO BAEKELAND.

In some of the last numbers of Wilson's Magazine Mr. Bachrach has made some statements regarding the relative permanency of albumen and emulsion printing-out papers. There is much truth in what he wrote on this subject. But his assertions are altogether too exclusive and too absolute to be entirely correct. Is it not strange that he should proclaim albumen as a kind of universal panacea for the tribulations of the photographer, when scarcely a few years ago, before emulsion papers were in common use, there was a general outcry against the instability of albumen prints? Blistering, yellowing, fading, white spots, etc., were the general topics of conversation among photographers. Has all this changed so suddenly? Family albums containing albumen prints, half faded and yellow, seem to give strong evidence that albumen has not improved much in that respect. Many albumen prints turned out conscientiously by first-class photographers seem to suffer much from age, even after so short a time as one year. I can prove this by some samples which are under my direct observation.

Any silver printing out paper, including albumen, is a delicate article and liable to fade if not properly made and handled. I agree fully with Mr. Bachrach that strongly silvered, deeply toned, well-fixed, and well-washed albumen prints are more permanent than prints made on:

1. Gelatine or collodion printing-out papers toned in a combined bath.

[1] See article on page 6, January number of this Magazine.

2. Gelatine or collodion papers too poor in silver.

3. Gelatine or collodion papers scarcely toned, that is to say, to a red or brick color, and which consequently are not "gilded," and are scarcely better than prints fixed in hypo without toning.

4. Gelatine or collodion papers toned with sulpho-cyanide or lead baths.

5. Gelatine or collodion papers toned in a separate bath, but fixed in hypo containing alum or such hardeners as will liberate sulphur, such a mixture being simply a disguised combined bath whose services are called in in order to give to the prints a decent tone by sulphurizing, where a plain gold bath was powerless to accomplish the result.

But I will be glad to show by direct tests to Mr. Bachrach, and to anybody, that I can make prints on Nepera paper, which has a hardened gelatine film rich in silver, toned in separate baths, and fixed in plain hypo, which will stand the test and outlast any albumen prints made by the leading photographers of the United States.

I am willing to submit this matter to a jointly appointed committee of competent photographers and chemists. It appears to me that this important and so-much-discussed matter to the interest of the photographic profession in this country should be settled once and for all by practical tests.

THE STUDY OF PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

If any readers have been incited to give thoughtful attention to the preceding charts, a good foundation has been laid for the study of color as explained in this article. It is hardly enough to know how a thing should be done. One must know how to do it. Still, blind practice, unsupported by a degree of theoretical knowledge, is very apt to mislead and result in the loss of time and disappointment. The editor aims to make this Magazine a safe guide to those who will faithfully follow the instruction given.

In this paper the attempt will be made to tell how to study the practical uses of color and to set forth the methods to employ in order to become practically capable of its intelligent use.

Books and treatises upon art, "gotten up to sell" and well padded for that purpose, but not based upon any practical knowledge of ways and means, have a very mischievous tendency, as such prove inimical to the use of really good works. The man who must make it his business to attain practical results can afford no time for the working out of vague theories. It is easy for the geographer to trace upon the map the route of the ship that is to visit distant lands, but can he navigate the bark to its destination? Again, it is easy to say that a picture should be thus or thus, but he who has no experience of the methods of reaching the wished-for results can never make it so plain to others as to induce them to discard the use of rules long tried and the value of which has been well tested for those of dreamy fancy.

There may be some who look with disdain upon elementary study of any sort, as perhaps fit for children, but beneath the notice of aspiring minds. It is, however, well known that sound elementary knowledge is an aid to the full realization of high aspirations. It is thought that the lessons here given, judiciously applied to every-day uses, will ere long convince the student that the time used has been wisely bestowed.

To prepare for the following lesson ad-

ditional materials will be needed: Crimson, white, black, and brown pastels; some Whatman's paper, same size as before and prepared in same manner. Leaving a margin of 1½ to 2 inches all around, rule with a hard pencil three equal spaces vertically. Space them now horizontally into four equal parts. There should be twelve spaces of square form. Scrape some yellow pastel finely, and with a wad of cotton quickly tint the whole twelve. Now powder some blue, and add three-fourths as much powdered white to it, mix it well, and with a clean wad of cotton tint over the yellow in all directions. The square should now appear greenish. Powder some red and a bit of brown, and add half as much white to it, mix and tint the whole again, when, if well done, the sheet will now appear a warm gray. This is your ground color. It ought to resemble a sheet of dark sandpaper in color to be useful for our purpose.

Now for the use of the colors we have before made upon our charts. Rule *down* the squares upon the left side Nos. 1, 2, 3, 4; the middle ones number *down* 5, 6, 7, 8; and the outer row on the right *down* 9, 10, 11, 12.

Now we start from the lower right-hand corner in each case, spreading our colors as clouds might drift in a fan-like shape *diagonally to upper left-hand corner*. Take a black crayon and blot in squares Nos. 1, 2, 3, 4, in a ragged, cloud-like mass, an area the size of a twenty-cent piece. The black must be dense black at *corner*, but may fade as edges emerge into the space.

While doing these you may also treat 5, 6, 7, 8, and *one-half* the area only in Nos. 10, 11, 12.

You must use the usual process hand-rest now in doing the other colors or the black will mix and sully their freshness should the hand or sleeve touch it.

Return to square No. 1 and with the white crayon rub in an area twice the size of the black already there.

In square No. 2 rub the white above the black, pure yellow next white and joining the black in places, and some orange below the yellow.

In No. 3 red next to black, crimson above it, and a cloud of white beyond.

In square No. 4 rub blue next the black, with white above it.

Now in the middle row we will place green, purple, and russet or brown.

In square No. 5, next the black, rub some red, with a blotch of green each side, and white at apex.

In square No. 6 rub white, red, and blue above and around the black, and orange at apex.

In square No. 7 rub red, orange, and blue next black, with white and russet at apex.

In square No. 8 rub purple and yellow next black, and white at apex.

In No. 9 we have no black; we will put russet or brown in the corner occupied by black in others, and yellow, red, and green around it, with white and purple at apex.

In No. 10 we put purple, white, and red next black, with orange and brown at apex.

In No. 11 we put russet or brown, with red next black, blue and orange next red, and a blotch of white at apex.

In No. 12 we put blue and white next black, yellow and red next white, with russet or brown at apex.

If the diagonal direction has been adhered to the effect of this chart when held at a distance will be quite flowery and blooming.

Now many of these colors are those used in our cities on the posters so much in evidence in our streets. They are designedly so placed as to give a feeling of brightness or vivacity to the *tout ensemble*, and at same time enhance the beauty of each.

All the colors except crimson, white, and

black are old acquaintances, to be found residing upon our previous charts.

The outer edges of all may be tinted with a clean stump and white, and gently blended with the little finger. Parts of each may be stippled with black and the point of stump shaded with finger, and the usefulness greatly enhanced.

If the editor could be encouraged to reproduce such a sheet by lithography in *fac simile* it would be a most valuable acquisition to every process atelier. A noted French writer and critic says: "There is a thousand times more talent shown in the smallest poster by Cheret than in most salon pictures." As he himself says: "He assuredly paints in the three shrillest trumpet-notes of the palette, and thus he finds a way to produce an effect of life and joy as in flowers."

Now, how did Cheret reach such an enviable position? Is there any rapid method? The testimony of the masters in art but repeats what Longfellow taught when he sang, long ago, "The heights by great men reached and kept were not attained by sudden flight."

While busy with color study try to apply the principles, by making notes of the colors noticed in skies and views out of doors. At the beginning do not distract the eye with petty details. Look with eyes half-closed, and note the breadth of things. Pastel is a valuable medium for practice of this kind. Meantime be content to "hasten slowly."

"Let no man think that sudden, in a minute,
All is accomplished and the work is done,
Though with the earliest dawn thou shouldst begin it,
Scarce were it ended in thy setting sun."

The first column on this sheet will give combines for catchy poster and book-cover effects. The other columns will suggest hints for show cards, magazine covers, etc., in quiet tints.

As a study, color requires much consideration before one can reduce it to certain principles. Art of a high class can only be created by an educated mind. One must acquire a knowledge of the relation that one color bears to another, how to combine, harmonize, and oppose. Art combines the two elements of conception and execution. Originality is best shown in the employment of the means best adapted to depict the intelligent thought of the artist. No greatness can be achieved but by a course of practical study.

"Who learns, but acts not what he knows,
Is one who ploughs but never sows."

(To be continued)

PRACTICAL POINTERS FROM THE CRAFT.

PYRO—A STANDARD DEVELOPER. — I have used many developers at one time or another and find some of them very useful for special purposes, but pyro-soda is, in my opinion, the most reliable for all purposes and with different brands of plates. I mix my developer fresh for each plate, unless I am making a copy, when I generally use old developer with restrainer to get the best results. The biggest advantage of pyro is that by making one's developer in two solutions and adding water to either or both as desired, one can modify its action to suit the exposure, and at the same time nicely control the temperature, which is important. I make up a large bottle of sulphite of soda at 60° hydrometer test, and carefully filter it. For use I take 16 ounces of this solution and 1 ounce of pyro. My accelerator is sal soda solution at 40° hydrometer test, filtered.—E. H. BERLIN, Blairsville, Pa.

FEEL AT EASE with the world and yourself when you come to be photographed, and be sure to give yourself plenty of time. Your portrait will reflect your state of mind at the time of sitting. When you come

in a hurry and flurry your likeness cannot but present a wearied or anxious expression, which may necessitate a second sitting. Ladies tired out by a shopping expedition, gentlemen preoccupied with business details, and children who are scared by constant warnings that they are to behave well and look nice, are apt to photograph poorly. Take time for the sitting, be perfectly easy, and you will be well repaid by a true and pleasing likeness, which will show you at your best.—From "Advice to Sitters." J. J. HILLE, Chicago.

UNPROFITABLE PATRONS.—What am I to do with customers who sit for portraits and refuse to order on seeing proof? Sometimes this class of patrons will neither sit again, pay for proof, nor return them. Such sittings are a dead loss.—H. SIEWERT, Everett, Wash.

This difficulty may be simply overcome in two ways: First, by adopting the plan given by Mr. Lamson, at page 89 of our February issue, in answer to question 8; or, second, by giving to every sitter before they go into the studio a neat price card, about 3½ x 6 inches, with this notice in bold type above the prices: "Persons having sittings and proofs will be charged for cost of same should no order be given." (Lamson.) Of course this rule is of little use unless it is made known to every sitter and insisted upon.

Another good notice to head off patrons of this sort mentioned is given by Mr. Lamson, as follows:

"*Please Notice:* Negatives cost time and money. No person can be permitted to sit FREE as an experiment and give no order. If all orders are not placed within a reasonable time, or an arrangement made for a new sitting, a charge of $2 will be made and the account closed. All sittings are given upon this understanding."

COPYING "TINTYPES."—It is often a risk to dissolve the old varnish from a "tintype" before copying or enlarging. To brighten it up long enough for the exposure I apply a little carbon oil to the surface of the tintype, and then wipe it off clean. This enables me to get a brighter negative. In copying collodio-chloride prints with objectionable backgrounds to the subject, I scrape away the ground with a sharp knife, and then put in a shaded ground.—E. H. BERLIN, Blairsville, Pa.

COMBINED NEGATIVE AND RETOUCHING VARNISH.—The formula I here give combines many advantages; as a negative varnish the solution is easily applied or removed, preserves the negative from damp or scratching, and prevents the printing paper from attaching to the negative, even in the hottest weather. It gives a surface finely adapted for retouching or handwork, and last, but not least, it is cheap and easy to prepare. Take

Gum Mastic	35 grains.
Sulphuric Ether . . .	2 ounces
Gasoline	8 ounces.

To varnish the negative flow the solution over its surface. Do not heat the negative either before or after varnishing. Keep the bottle tightly corked and away from fire. Set negative on end after flowing with varnish; it dries instantly. To remove the varnish rub the negative over with a wad of cotton charged with gasoline.—D. J. COOK, Concord, Mich.

VARNISHING NEGATIVES.—I varnish all my negatives by wetting a wad of filtering cotton with the varnish, and wiping the surface of the negative all over evenly, commencing at one side and continuing with straight strokes from top to bottom of the plate until the surface is completely covered. Of course the consistency of the varnish must be suited to this method or it will leave streaks which will show in printing. I find this method more certain,

more economical, and quicker than flowing the varnish on the plate, especially for large negatives. The varnish I use is made of equal parts of gum sandarach and white gum turpentine dissolved in alcohol, and diluted until it runs as thin as I desire. It may be easily removed, if desired, with alcohol. As a retouching medium I have always used common resin dissolved in spirits of turpentine to the consistency of cream, applied to the negative and partially wiped away with cotton until I have just the retouching surface I desire.—E. H. BERLIN, Blairsville, Pa.

A READY MADE ADVERTISEMENT, set up in average country newspaper display:

Black Tones and Engraving Effects

are fashionable in portraits just now. The new pictures are very artistic and effective, rich and deep in tones, with a matt surface. Absolutely non-fadeable. Call and see the fine display at

Powell's Studio
136 West 4th St.

VISITORS ALWAYS WELCOME

BACKGROUND FOR THE DISPLAY FRAME.—Take two cupfuls of common, coarse salt and one cupful of boiling water. Mix with as little water as possible one-half cupful of cornstarch; then boil it for five minutes. Stir into the boiled starch the salt solution, and put in sufficient aniline dye to color it whatever tint is desired. Spread this mixture over the backboard of your display frame and sprinkle it while damp with "diamond dust." By making the salt and starch mixture more liquid, and applying it through a funnel or anything that will enable you to squirt it on the ground, you can apply the mixture so as to form an ornamental ground in relief. Gold, or bronze, or silver dust may be used to add effect. Then fix the pictures on with gilt-headed tacks.—D. J. COOK, Concord, Mich.

THE OWNERSHIP OF THE NEGATIVE.—A customer has his building photographed and is told that the photographs will cost $5 for 6, or $8 for 12 copies. Here he actually pays $2 for the negative. If he desire the negative, after his order is completed, for some personal purpose, should he be asked to pay further for it? If so, why should he be asked to pay twice for the negative?—H. SIEWERT, Everett, Wash.

Unless special arrangement as to the ownership of the negative is made beforehand, it is indisputable that the negative is the property of the photographer. His right in his ownership of it is limited only by the fact that he cannot sell prints from it or sell the negative without the permission of the owner of the thing photographed. Of course there are exceptions even to this rule of restriction. Certainly a photographer has no right to make prints from his portrait negatives for display in any form or for sale without the consent of the person photographed, unless the subject is a celebrity or public personage. In this case it is held that the public has a common ownership in the picture, and that the celebrity cannot restrain the sale of the picture.

Where no previous arrangement has been made and a customer desires possession of the negative taken to fill his order for prints, he should certainly be charged for the negative, as the photographer loses the possible after-sales from it. The charge for photographs per dozen is meant to include prints only; the negative belongs to the photographer, though his use of it is restricted in certain cases.

MAGIC LANTERN SLIDES OF THE ATLANTA EXPOSITION.

E. L. Mudge, Chattanooga.

NORTH FROM THE GEORGIA BUILDING.

THE Atlanta Exposition is closed, but it will not soon be forgotten. In some respects it was more enjoyable than the World's Fair at Chicago. The visitor was not dismayed by the surfeit of things to see and overcome, at first sight, by a sense of his utter inability to see all. There was a great deal of beauty at Atlanta, due to the natural lay of the ground; there was a delightful variety of scene, which could all be grasped without tiring, and there was a spirit of welcome and hospitality pervading all, which was new and fresh and enjoyable to the Northener and Westerner.

E. L. Mudge, Chattanooga.

THE MIDWAY, LOOKING EAST.

As a means of securing good to the whole country, the Exposition at Atlanta was of great service. It has taught many lessons, the influence and weight of which will continue for a long time to come. For these reasons the memory of the occasion will long be perpetuated through the magic lantern. During the Exposition Mr. E. L. Mudge gave most careful attention to securing a representative series of negatives for the production of lantern slides of an illustrative and educational character, for the subsequent uses to which we have alluded. In this he has had very great success.

Lying before us as we write is a selection of about thirty of these subjects, which are very charming. There is a selection of interiors and exteriors, the choice of which was largely regulated by the subjects, and they are finely done. But in capturing characteristic groups Mr. Mudge seems to have met our taste with greatest success. Those of "The Cairo Street," "The Indian Village," "The Dahomey Village," "The Mexican Bull-fight," "The Midway," "Egyptian Girls," "Negro and Pickaninny Groups," are all admirably caught. One of Joseph Aubrecht, the *still* man, who stood for the three-color picture in our December number, is particularly fine, and holds special interest because of the sad death of our unfortunate model while at Atlanta. One of the most charming of the buildings series is of "The Art Hall." For engraving and presenting herewith we have selected a few of Mr. Mudge's subjects. They are not the best by any means. Two of the best are (1) of a donkey's head, and (2) of a group of ostriches. A list of all may be had of Mr. Mudge, now residing at Chattanooga.

He used both the wet and the dry processes and various toning solutions. Those toned with both the combined gold and platinum solution seem to us to be the best for transparency.

F. L. Morse, Atlanta.

"WHO 'S A NIGGER?"
(Copyrighted 1895.)

Slide-makers should all recollect that when toning slides the effect they produce *upon the screen* is of paramount importance, and not the pleasure they give to the eye as to color. This last is so in window transparencies.

Mr. Mudge desires us to say that the negative of "Who's a Nigger?" (an 8x10, prints supplied to order by him) was made by Mr. Morse, 197 Ivy St., Atlanta, Ga.

Mr. Mudge's "A Load of Pickaninnies" is a fine companion picture. The whole series is fresh, new, and effective, sure to "bring down the house."

E. L. Mudge, Chattanooga.

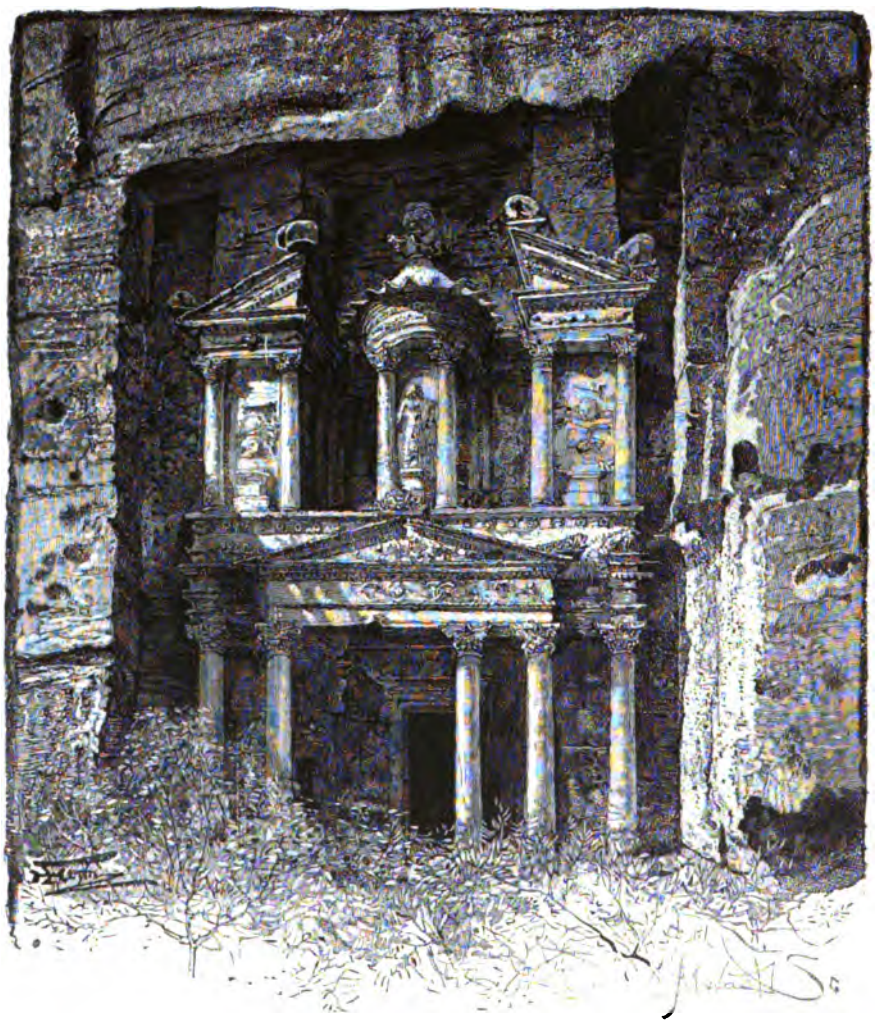
MACHINERY HALL AT NIGHT.

THE USES OF PHOTOGRAPHY IN BOOK-MAKING.

MUCH discussion has been going on in the press of the laity for some time with reference to the effects of process work upon wood engraving, upon various means of reproduction, etc., and as to the various advantages and disadvantages of process photography in the production and reproduction of books. It is not a well-known fact, but it is a fact, that the reproduction of books entire by means of process engraving is becoming quite a well-patronized art, and its development is well worth looking into. For example, we are familiar with a complete reproduction of the *Encyclopædia Britannica*, done by means of photo-engraving. A negative was made of every page, and from these, plates of the same size as the originals by means of which the entire book was reproduced as though from type or electrotypes. Another example of this kind of work is the late 12mo. edition of *In Scripture Lands*. The latter gave the process engraver considerably more work than it would have done had it been entirely of type, but, being highly illustrated, it taxed his skill to the utmost. The plates were made by the Albany Engraving Company. A copy of the original edition (which is royal octavo, sold at $3.50), compared with the reproduction (which is 12mo., sold at $1.50), presents difficulty in finding any difference in result, except what may be due to the press-work and paper. In proof of this we quote herewith a letter respecting this reproduction from the noted astronomer and photo-expert, Prof. C. Piazzi Smyth, of Clova, Ripon, England.

MY DEAR DR. WILSON: How very kind of you to send me the new edition of your *In Scripture Lands*, and how very glad I am to see your book on such a subject, taking rank as a classic among the legions of authors thereon.

A mighty, well-packed little book it is, quite worthy of the rank it is now aspiring to. I have had a special

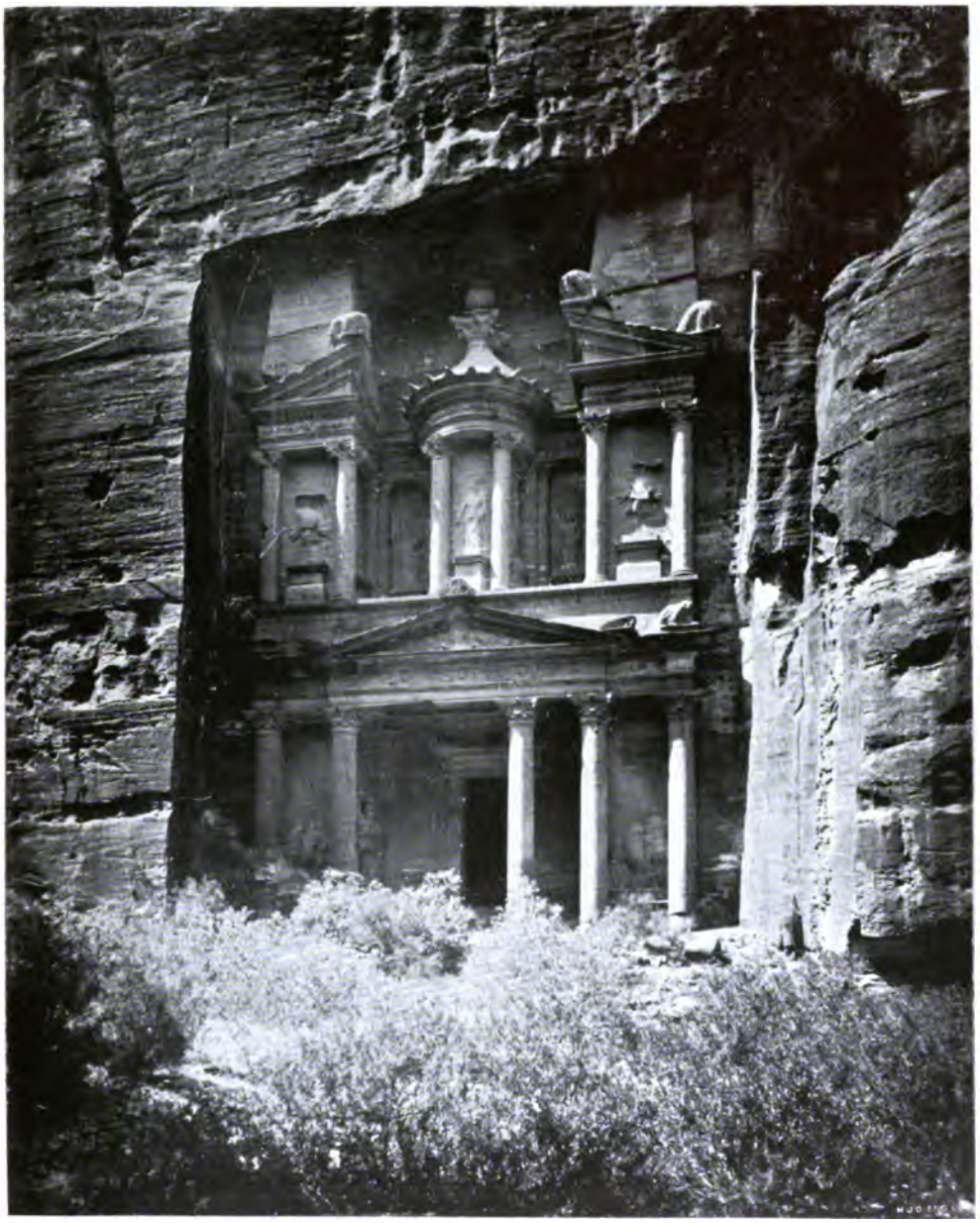


Edward L. Wilson, New York.

THE KHUZNEH, AT PETRA.
(Wood-engraving from "In Scripture Lands.")

and surpassing treat in looking over its 150 illustrations, critically and earnestly, with a powerful magnifier. I went through that long pleasure yesterday from beginning to end without a break, while the air was snowing outside, and always found, whether the pictures were of larger or smaller varieties, darker or lighter, figure or landscape, there was an invaluable character of artistic work, and full black and white effect, making them most suitable to being interspersed among the type-printed pages, enabling them to hold their own there even under a magnifier.

Now with regard to a large class of prints produced by process methods from photos, that is far from being the case, for if to the naked eye there is something pretty and almost natural looking in a view—the moment you take up a magnifier to it the illusion is gone, for the optical help brings out with such painful clearness a set of mechanical cross lines, forming the necessary shade for every object and every degree of lighting over the whole scene. Art, and mind, and soul are



Edward L. Wilson, New York.

THE KHUZNEH, AT PETRA.

(Half-tone, from the original 8 x 10 photograph.)

all evaporated together in the meshes of that mechanical net. That is what the hand magnifier then shows, and which the thinking man does not care about. But your illustrations look more like the scenes themselves the more you use a magnifier to them; with the running accompaniment of the shades in them being produced by lines suited to the surface by the artistic genius of man working in harmony with nature; and that is always a pleasure to behold, while the engraver is always in a position to fall back on full black tones to enable the illustration to hold its own.

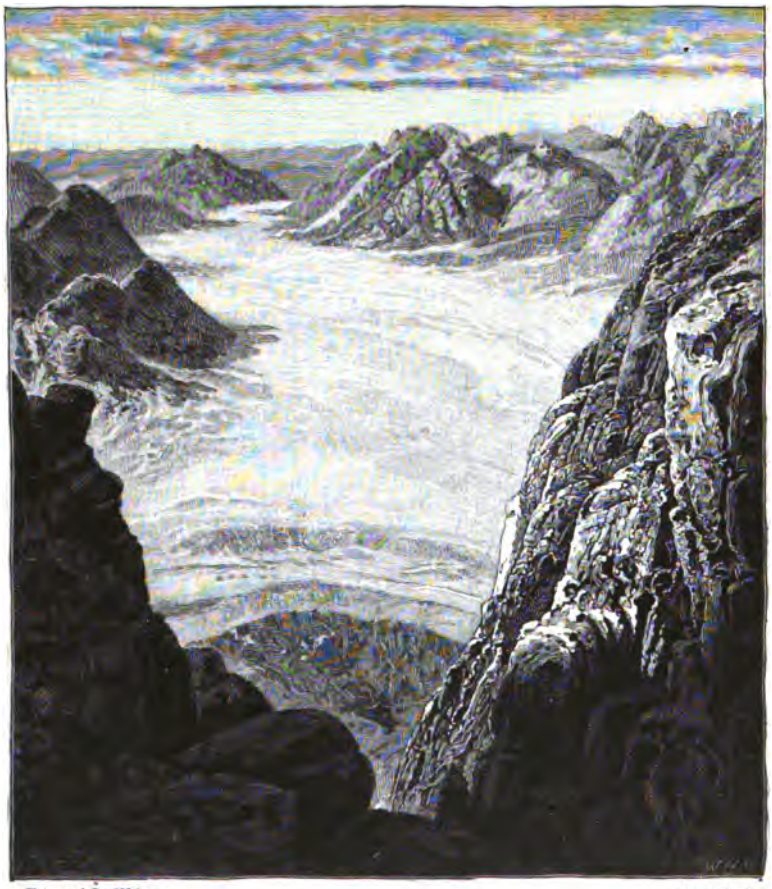
At the same time there is an amount of accurate de-

tail and correct perspective, which only photography could give through such an overpowering number of illustrations packed away modestly between the boards of so small a book, and chronicling the experience of your most important tour. Sincerely yours,

C. PIAZZI SMYTH.

The difficulties we have alluded to were due to the fact that the 150 illustrations of the book were originally produced by a number of methods. They are largely engravings on wood made by the best artists of the *Century* Company. A number of them are actinics; some of them are etchings touched up by the engraver, and a very few are half-tones.

A great many of the illustrations have been used in various publications printed from electrotypes of the original engravings, and others made by half-tone from the original 8 x 10 photographs. For the sake of comparison we present herewith one or two of the subjects of those which are selected from the best wood-engravings, with half-tones of the same subjects[1] for comparison. The new edition of the book is a photographic curiosity, and, as a reproduction, is a great success, so pronounced by Prof. Smyth. As nearly all of our patrons are called upon at one time or



Edward L. Wilson, New York.

FROM THE TOP OF MOUNT SINAI, OVERLOOKING THE PLAIN OF ASSEMBLAGE.
(Wood engraving, from "In Scripture Lands.")

[1] Engraved for the Commercial Travellers' Home Magazine.

Edward L. Wilson, New York.

FROM THE TOP OF MOUNT SINAI, OVERLOOKING THE PLAIN OF ASSEMBLAGE.
(Half-tone, from the original 8 x 10 photograph.)

another to make negatives and pictures for publishers or for reproduction, in our next number we will continue this subject and add some notes which may be of service, excerpted from contributions which we have found in some of our exchanges. We trust that these articles may be of service to the workers in process reproduction and interesting to all our readers. Those who would grow must likewise study.

IN MEMORIAM.

J. W. BLACK, M. B. BRADY, W. D. GATCHEL, E. P. LIBBY, ALLEN J. SKUTT, K. P. MERRITT.

As announced in our last number, death has been very busy among our veteran photographers of late. Since the first of the year no less than six of these have passed away, and it becomes our sad privilege to place on record a few, although very incomplete, notes concerning them.

The first one is J. W. BLACK, personally of the six the best known to the fraternity in general. The members of the old National Association all knew him, because he was a constant attendant at the conventions, several years an active member of the Executive Committee, and ever a willing and obliging friend to everyone who became acquainted with him. When the opposition to the extension of the bromide patent took place in 1867 and 1868, Mr. Black was of the greatest service, coming next after Jex Bardwell in his active labors in finding evidence in behalf of our craft. During one whole week, while counsel for both sides were taking testimony in Boston, Mr. Black was ever at our right hand, and rendered most efficient service. He perfected an acid nitrate bath, using no bromide. He was one of the first to focus an American camera. He died at his home in Cambridge, Mass., on Sunday, January 5th. He had been in poor health for a number of years, and death was caused by pneumonia following a surgical operation. To make record of his entire service as a photographer would require more space than we are warranted in taking, so that we must confine ourselves to a summary.

JAMES W. BLACK.

He was born in Francestown, N. H., February 10, 1825. He came to Boston when quite a young man and learned photography. There he formed a partnership with John A. Whipple, and there under the firm name of Whipple & Black they became very famous in their line of work. After a number of years the firm was dissolved, each member thereof continuing on his own account. Afterward Mr. Black went into partnership with Mr. Case, a business man: but during the last fifteen years he carried on business alone at 333 Washington Street, Boston. Mr. Black for twenty years had made a specialty of taking pictures for magic-lantern slides, and was one of the earliest lantern operators. He gave a splendid entertainment to photographers at their first Convention in 1871, and had

the most expensive apparatus of the kind in existence for a long time. He was looked up to at all times as an authority as far as the science and chemistry of the art was concerned, and for thirty years held the position of a leading photographer in Boston. When William Bradford, the artist, painter, and explorer, went to the polar regions he was accompanied by Mr. Black's brother-in-law and employé, John Dunmore, who brought back the famous views of that country. For many years Mr. Black was the official photographer of the Police Department, and in the course of this work has probably taken pictures of nearly every criminal of any importance in the country. He leaves a widow and daughter, and a son, Mr. Otis Fisher Black, who was in business with him at the time of his death.

M. B. BRADY.

The old friends of Mr. Black will remember how personally popular he was; always one of the most genial, obliging, and attentive of friends; warm hearted and noble in character, and beloved by all who knew him. His studio for many years was close upon that of the establishment of B. French & Co., and we have received from Mr. French, who knew our deceased friend forty years, a personal letter, giving a very gratifying tribute to Mr. Black. This from one veteran in relation to another is exceedingly gratifying. Among other things Mr. French writes us, viz.: "Mr. Black was one of the most respected men in the photographic business. He began by making daguerreotypes, and then was one of the leading photographers of Boston and of the world. He was a very hard worker, and one who at all times was ready and willing to give information to all who needed it, without any charge. In the earlier days of photography this would have been a great deal to say. He was thought of as being one of the most kind-hearted men in the business. He was beloved by all with whom he came in contact. I have no doubt that in view of your long acquaintance with him you can add a number of facts to the above. There is nothing but good to say of him. B. FRENCH."

M. B. BRADY.

Mr. Brady died in the Presbyterian Hospital, New York, Wednesday night, January 15th. A full record of his life-work as a photographer would read like a romance. He entered the art of photography when it was in its infancy, begin-

ning with the making of daguerreotypes. Earlier in life he was a portrait painter. His first studio was located in Fulton Street, this city, at that time one of our principal thoroughfares. He likewise had a gallery in Fulton Street, Brooklyn, which afterward became the Williamson gallery; then he moved his studio to Broadway near Prince Street, close to the present establishment of Messrs. E. & H. T. Anthony & Co. In 1860 he opened a branch gallery on Pennsylvania Avenue, Washington, which was destined to become his headquarters. In 1861, when Sumter was fired upon, Washington was thronged by the men who were to make history for America. Mr. Brady was bright enough to see this, and made efforts to secure the portraits of all these, so that his Washington gallery soon became famous, and he made a fortune in photographing men of national reputation. His gallery included, besides all the distinguished generals, admirals, and several Presidents, nearly every army and naval officer of note.

A hasty visit to the army at the beginning of the war convinced him that photographs of the actual scenes of battle would be exceedingly valuable. He obtained permission of Secretary of War Stanton, then at once constructed and sent to the front three or four wagons for photographic use, which followed the army from place to place. The negatives of these war pictures and portraits were sold to the United States Government a few years ago for $25,000.

All who are familiar with New York will remember the gallery at the corner of Tenth Street and Broadway, now occupied by D. H. Anderson, where was located "Brady's Famous National Portrait Gallery."

Mr. Brady was not well known personally to the photographic fraternity, but those who did know him knew that he was an admirable conversationalist. This faculty gave him a decided advantage while arranging his subjects for their negatives. No man had a larger fund of anecdotes than he, and yet he was retiring and modest, and rather shrank from publicity. His name will always be connected with the name of photography as one of its earliest disciples who always honored it, and as one of the most careful workers. Those who knew him best will remember him as talented, enthusiastic, artistic, and as a gentle, generous man.

Personally we shall not soon forget the instruction we have received from his lips from time to time, and the advantages we have had from acquaintance and contact with him.

For the last several years of his life Mr. Brady lived with his nephew, Mr. L. C. Handy, from whose letter we gather the following interesting details:

"In 1851 Mr. Brady went to the London Exhibition and took the first prize. The same year he visited the galleries of Europe and found his pictures everywhere, as far as Rome and Naples. A visit to his gallery was considered the thing; there one could gaze on the features of the greatest men and women the country ever produced.

"The government purchased from him a collection of war negatives, for which they paid him $25,000. This enabled him to continue in business for a short time, when reverses came. Piece by piece his collection passed from him, and in 1880 he closed his place of business in Washington, transferring a number of celebrity negatives to me (his nephew). I learned the business with him and was associated with him for more than twenty-five years. I succeeded to a greater part of his business.

"A few years ago a friend assisted Mr. Brady and started him again, but he seemed to have lost his hold on the public; his

former friends kept away from him. This seemed to worry him greatly, as old age was coming on.

"A change of administration and many other things discouraged him, and he finally mortgaged the remainder of his material, instruments, etc. This seemed to break his heart. In his eagerness to keep afloat he ventured out on the night of Emancipation Day, April 16, 1894, and in crossing the street in front of the Riggs Hotel, was run over by a carelessly driven carriage; his leg was broken, and he was removed at once to my house, where the limb was set. Mr. Brady was forced to remain indoors nearly a year. While he lay on his back the parties holding the mortgage closed in on him and left him penniless. As soon as he was able to get out he went to New York, where arrangements were being made that he should give an exhibition by the stereopticon of some of his celebrated pictures. All things seemed to favor the plan; the exhibition was to have taken place on the 30th day of January. Mr. Brady while in New York on this last visit was largely assisted by the Veterans of the 7th Regiment, of which he was a member, and the Artist Club, of which he was the founder, stopping for some time with Mr. William M. Riley, of 119 East Fifteenth Street. Mr. Brady, however, never fully recovered from the injury received in Washington. It caused a complication of troubles, and he was finally removed to the Presbyterian Hospital, where everything possible was done for him. An operation was performed, under which he gradually sank until he died. He was conscious until the last and was at peace with God.

"He will be remembered as a genial gentleman, famous not only for his art, but also for his philanthropy. He was exceedingly popular with public men and had an unusually wide acquaintance with them.

"Mr. Brady's remains were sent to Washington to me, the funeral services were held at my house, and the remains buried in the Congressional Cemetery by the side of his wife."

W. D. GATCHEL.

At his home in Louisville, Ky., December 29th, Mr. W. D. Gatchel, the well-known dealer in photographic supplies, passed away from this life in the seventieth year of his age. He entered the photographic field in 1861 with R. P. Appleby, of Chicago; he removed to Cincinnati in 1863, where he became manager of the branch business of L. B. Darling, a refiner,

W. D. GATCHEL.

of Providence, R. I. This business, in partnership with H. A. Hyatt, he afterward bought out, and the firm became Gatchel & Hyatt. They also bought the business of William H. Tilford, of St. Louis, and of Mr. Merritt, of Louisville, Ky., thus establishing three houses, known as the Tri-City Stock House. The firm was afterward dissolved, Mr. Hyatt taking the St. Louis house, and Mr. Gatchel then located at Louisville and Cincinnati. In 1882 he sold out the Cincinnati establishment to Messrs. Jordan & Sheen, later Simpkinson & Miller, while Mr. Gatchel moved with his family to Louisville. Owing to ill health, for the last year, Mr. Gatchel had practically retired from business, and his two sons, A. D. and E. E. Gatchel, managed affairs in his place, while the firm was changed to W. D. Gatchel & Sons, the name under which the business will continue. Mr. W. D. Gatchel established an enviable reputation for the highest integrity, and built up an extensive trade, into which he infused the spirit of his own energy, coupled with upright dealing.

Knowing him personally so many years we can testify to his loveliness of character, gentleness and integrity and probity, and that he leaves behind him hosts of friends who esteemed him highly; all who knew him liked him. He was a member of the Warren Memorial Church of his city, and one of its most active supporters. Thus ends the record of his thirty-four years of active service in our fraternity.

His son, A. D. Gatchel, who established the successful branch house at Birmingham, Ala., has had twelve years' experience, and there is every promise that he will follow in the steps of his illustrious and much-esteemed sire.

E. P. LIBBY.

Mr. E. P. Libby was one of our oldest subscribers and good friends, and a veteran photographer. The attendants] of the earlier conventions of photographers held in the West will remember his rather attractive figure, and all will remember his genial kindness and earnestness in producing good work. One of his oldest friends was Mr. E. Long, Quincy, Ill. Mr. Long sends us some notes concerning Mr. Libby's history, which find below:

"Mr. E. P. Libby, of Keokuk, Iowa, who died December 27, 1895, was aged sixty-six years. He was one of the few remaining veterans of our craft whose experiences in photography date back to Daguerrean days. He entered photography as a business in 1857 by serving a year's apprenticeship with Mr. Lovell, at that time the leading photographer of Dubuque, Iowa; after this he established a successful business at Manchester, Iowa, which he relinquished to take up the introduction of the Wing Multiple Camera, etc., through the Western Territories. He finally located at Keokuk in 1866, and for many years was the most prominent photographer thereabouts, with branch galleries at Fairfield and Manchester. In 1889, his health declining, he retired from active business and awaited his end amid quiet days.

"Mr. Libby was a progressive worker throughout his career, a capable chemist, and an artist of more than average ability; upright and popular with all who came in contact with him. He was a Mason and an Odd Fellow in good standing."

ALLAN K. SKUTT.

Died of paralysis in Jamestown, N. Y., December 17, 1895, Mr. Allan K. Skutt, in the sixty-first year of his age. From his old friend and co-worker, Mr. A. N. Camp, of Jamestown, we have been favored with the following particulars:

"Mr. Skutt began his photographic career about thirty-five years ago in Hudson, Mich. After serving his apprentice-

ALLAN J. SKUTT.

ship there and working in different places for some time, he entered the employment of James F. Ryder, of Cleveland, O., as a negative retoucher; this places him on record as one of the very first who operated this improvement in photography. The attendants of our earlier conventions will readily remember what an excitement was caused by the exhibition of Mr. Skutt's work, exhibited at the Second Annual Convention, held in Cleveland, work which had grown out of the introduction of the then famous 'Berlin cartes des visite,' imported by the editor of this MAGAZINE, as studies for the instruction and help of his patrons. Mr. Skutt removed to Jamestown about eighteen years ago, and there resided up to the time of his death. He was a skilled chemist, especially in the development of the wet plate, and was among the first in his district to introduce the charming stippled effect in retouching, so popular in the earlier days of retouching. His later years have been devoted to the pursuit of commercial photography entirely. He was a man of sterling worth; he had his convictions, and he had the courage of them and stood by them; the rights of his fellow-men were among the principles inherent in his innermost nature. He has now passed from our fraternity, a man who faithfully performed the work that was given him to do.

JOHN D. MERRITT.

Another veteran, whose kindly personality will be well remembered by the older workers, has joined the silent majority. We refer to Mr. John D. Merritt, of Washington, D. C., who died some months ago, information of which reached us only last week.

Mr. Merritt began his photographic

JOHN D. MERRITT.

career when a youth of fifteen; he learned the art of daguerreotypy at Poughkeepsie, N. Y., and for some years had a gallery there, afterward locating at Fishkill Landing. When the daguerreotype was superseded by the ambrotype, Mr. Merritt spent many years in the employ of some of the prominent photographers of Cincinnati, Charleston, Saratoga, Baltimore, and other cities.

Fourteen years ago he equipped a fine studio on Pennsylvania Ave., Washington, where he secured the patronage of Presidents, Ambassadors, and other distinguished people residing at the National Capitol. His portraits of Presidents Cleveland and Harrison were especially noteworthy, and his reputation as a portraitist was well known throughout the Union.

Mr. Merritt was sixty-three years of age at the time of his death. In former years he took an active part in all works for the well-being of the craft. He was a large, fine-looking man, liberal and kindly in his sentiments, and strongly attached to his family and the large circle of friends which gathered about him. He leaves a widow, who will carry on his business at Washington, and two daughters.

Mr. Merritt's death was the culmination of a series of ailments which followed a severe attack of grippe two years ago. We shall miss him.

CHAUNCEY L. MOORE.

Mr. C. L. Moore, of Springfield, Mass., well known among New England photographers, passed away a few weeks ago. He was a careful and enterprising photographer, of ripe experience in his profession, and of a genial and helpful disposition. Those who came in contact with him will long remember his earnestness and readiness to be useful to his fellow-workers. The fraternity can ill afford to lose such men.

In the old days, when the members of the craft met in convention more generally, Mr. Moore and his brother were always seen at the annual gatherings. They were large men and always attracted attention. Their studio at Springfield we often visited and always learned something to tell the workers in our MAGAZINE.

TIME SAVING AND MONEY MAKING.

EVERYTHING that promises to save time and produce better prices is worth the attention of the professional worker. It is chiefly, indeed, to labor-saving methods and the introduction of novelties in his business that the photographer of to-day may look for success. The mounting and embossing machine manufactured by the Dorticus Manufacturing Co., Newton, N. J., an illustration of which may be found in our advertising pages, comes under this double heading. This machine has now been in the market a considerable time, and its advantages and merit have been well proved. As a print-mounter it will easily prove itself a time saver; its operation is exceedingly simple, and it presses the print into absolute contact with the mount, obviating the possibility of air-bubbles, etc. Both for mounting and embossing prints the Dorticus press adapts itself to all thicknesses of cardboard.

As an embossing machine it has several notable features. Any number of dies of various designs may be used at will, and it is impossible to break the dies. No oil is used, so that there is no fear that the mounts will be soiled in embossing.

The new double die, which gives an embossed and imprinted photograph, as shown in the accompanying cut (or *vice versa*, if desired), is the latest improvement.

Pictures mounted and embossed in this

press have a finished and attractive appearance which cannot be secured by any other method, and should bring a higher price than the ordinary photograph. We need hardly say that the mechanism and construction of the Dorticus press is thoroughly reliable. It has enjoyed a large sale abroad as well as in our own country, and deserves its popularity.

A MERRY GREETING.

THE entertaining little picture herewith was taken by Mr. M. C. Ragsdale, of San Angelo, Texas, and represents his three children offering the editor of this MAGAZINE "a hearty handshake and best wishes for the new year 1896." Surely, any editor would be happy at receiving such a hearty welcome from three little friends who express so much pleasure in their kindly act as do these fine children, and they may be assured that all their good-will

A MERRY GREETING.

is heartily appreciated. We trust they will not be offended because we share the advantage of it with every one of our readers.

The picture offers a pleasant suggestion for the posing of children.

STUDIES FOR PHOTOGRAPHERS.

DESPITE the profusion of illustrations in our pages there seems to be a general desire to secure actual photographs from negatives by prominent photographers, for the purpose of study and suggestion. To meet this want we have undertaken the publication of a collection of selected studies from the studio of Mr. B. J. Falk, of this city. Of the artistic quality and value of these pictures we need say nothing. The set comprises figure studies, bust portraits, groups, and children, 48 actual photographs. The price is $1.00 per set, postpaid.

PHOTOGRAPHERS OLD AND NEW.

LOUIS F. JANSEN.

WE are very sure that all our readers will be attracted by the beautiful example of work which appears in our current number from the studio of Mr. Louis F. Jansen, of Buffalo, N. Y. Mr. Jansen being one of our younger photographers, as his portrait herewith indicates, does not give us very much material to record of his career as a photographer. From what we can learn we understand that ten years ago he chose for his lifework a trade which was then a very profitable one (and which may be so yet), but our young enthusiast found that he was not adapted to it, that he had missed his calling, and that he would not make a good lithographer; therefore he gave it up. He chose the occupation of the photographer next, and associated with him in his work Mr. Albert L. Werner, under the firm name of Werner & Co., and this without the slightest idea of what photography was or what it meant. Nevertheless, after a single year's experience, he purchased the interest of his partner, and has since sailed alone, with such results as the picture of the "Harem" and the picture of the "Young Chorister," which appeared in our last number, present. Mr. Jansen, as we have stated, is an enthusiast. He believes that he is very much taken up with his profession; he believes in his profession, and is now quite sure that he has not taken a wrong step in making his choice. He says in his letter to us:

"I read with much interest your MAGAZINE, as well as others, and have had a very nice business for the holidays. I willingly ship you the negatives for your use, and trust that they may be of service to my fellow-workers."

Two new volumes have been added to the excellent German *Cyclopedia of Photography*, published by Wilhelm Knapp, of Hallé, Germany. Volume No. 6 treats of "Photogalvanography," and is from the pen of Herr O. Homar Volkmer. No. 8 is devoted to "Microphotography and Projection," and is written by Dr. Neuhauss. These writers are authorities upon the subjects with which their volumes deal, and the books are valuable to the practical worker as well as to the student. The price is $1 per volume.

PROFESSOR RÖNTGEN'S NEW LIGHT.

No recent discovery has received so much attention from the public press as has the announcement of Prof. Röntgen of his discovery of "a new light by which photographs may be made through solids," and to which allusion was made in our *Ground-Glass* last month. The friends of this MAGAZINE, who are always on the alert to send to the Editor what clippings they find in their reading that they think would be of service to their fellow-workers, have supplied us with no less than fifty-seven on this subject. These, in all, make quite as many columns, yea, even more, in the newspapers from which they were taken. In looking these over collectively they afford much amusement; as to the titles, for example, some of them are as follows: "The Latest Wonder in Photography," "The Wonderful Light," "Through Solid Flesh," "Strange Photography That Has Revealed One of Nature's Secrets," "The New Photography," "Photographing Through Solid Bodies," "The Photographic Discovery," "A Remarkable Discovery," "Visible Heat," "Photographing the Invisible," "That Mysterious Light," "An Advance in Photography," "The Great Photographic Discovery," "Prof. Röntgen's Startling Discovery," "Getting the Inside," "An Improvement in Photography That Will Stop at Nothing if the Story is Correctly Told," "Rays Pierced the Wood," "Cathode Ray Photography," and so on, to the end of the assortment. Many of these articles supply some fine writing, and are illustrated by pictures; and among these is one of a gentleman sitting in his summer-time, skeleton costume, by the side of his sweetheart; another, of a badly dilapidated money purse, with coins showing through its well-worn side; one, of a hand with the bones showing, without the usual accompaniment of flesh and tissue; and another (a wood-cut), supposed to be of the shin of some unfortunate soldier, with a bullet, well depicted, sunken in the bone just above the ankle; lastly, a portrait of the great discoverer. The humorous portion of all this is, that the process is not a photographic one in any sense of the word, any more than the process of placing a solid object upon a piece of colored cloth, exposing the whole to the sun until the exposed parts fade, and then, the object being removed, the image is found upon the cloth in its original color. It cannot be a photographic process because the light invented by the noted German professor will not pass through glass. It may be lenses will be made of pitch or jet with glass tubes. It would have no success whatever in illuminating a magic-lantern slide. It would not print an image through a photographic negative, although it will, it is said, pass through aluminum, through wood, strawboard, rubber, and other non-actinic substances. Nevertheless, as this subject is all the talk of the scientists to-day, and their talk has been largely published, and we are constantly inquired of concerning it by our patrons who do not own fifty-seven clippings describing it, we believe it to be our duty to place upon record here the best information we have concerning the new light, so that there may be no unusual nervousness or anxiety or expectation on the part of our patrons concerning it; for these reasons, as we have said, we make the above remarks, and have carefully culled from our fifty-seven clippings a few of the remarks of others. These, we think, will be enough for the present, until more results are procurable. It is only fair to add that a few years ago, when the photographing of animals running under full speed

by electricity was begun, the best results that were obtained by these curious snap-shot efforts were mere silhouettes—no more than what is obtained now by the use of this new light. Measure this fact with the excellent results which are secured by the means of true photography in time, not exceeding a fractional part of a second, and you may perhaps be warranted in believing that much more may proceed from the discovery of Prof. Röntgen than we are now willing to grant:

It is not exactly like photography, or, at least, does not give effects like those of the usual photographic picture, so far as we can understand the method from descriptions that have been given. A glass tube whose interior is as nearly a complete vacuum as possible is made luminous by the passage of an electric current, the cathode or negative pole of the current being the one which brings out the luminosity. This luminous vacuum contains an especial kind of light which has the property of passing through some opaque bodies, but not through others. Certain metals, for example, and the bones of the body are opaque to this light, but wood and flesh are not; consequently, the light from this tube when thrown upon the outstretched hand, for instance, passes through all but the bones, and casts a shadow of the skeleton of the hand upon a sensitive plate prepared to receive it. In the same way, a metal object, like a bullet, implanted in the soft tissues of the arm or leg, can be photographed, or, at least, its outline brought out. But, after all, these are not so much photographs, apparently, as silhouettes.—*Medical Age.*

"It is of great interest to men in my business," said a life insurance agent. "If such a light has been discovered and it can be made practicable it will be a great safeguard to life insurance companies. All applicants for policies could then be photographed, and the results would show just the condition of their hearts and lungs. Why, the practical possibilities of such an invention are great. If this light can be used in photographing a person's heart, why can't we go a step further and photograph the brain by it? Armed with this light and a camera a man might go around town taking snap-shots at other people's brains and stealing their ideas. One's imagination grows faint before the possibilities that such a discovery suggests."—*Public Ledger.*

There is an absurdity involved in naming a picture produced or recorded in the absence of light a photograph (photos, light; grapho, to write). But the mechanical process besides appears to be diametrically the opposite of photography as now practised. The image thrown on the sensitive plate is not a reflection, but a shadow; the picture that is registered is not a negative, but a positive. It differs from that produced in a camera, as your shadow projected on the floor or the wall differs from the reflection you see in the looking-glass. In Prof. Röntgen's process not only is the lens omitted, but the camera itself is discarded as superfluous. There is no focussing of the rays of this new energy. It is not even necessary to remove the slide or cover from the sensitive plate. The image is thrown upon the plate through the opaque light-proof slide. While electricity is required to be employed in the experiment it does not appear that the electric current is the active agent in projecting the image and decomposing the silver salts in the sensitive plate. Substances that are good conductors of electricity arrest the rays of Röntgen's "new light," and *vice versa.*—*Cam. Advertiser.*

If the cathode rays are light rays, they are apparently of the sort called ultra-violet rays, which in passing through a prism are refracted more than the violet

rays of ordinary sunlight. It is well known that such rays exist, and that they are effective in photography, though our eyes are incapable of getting any sensation directly from them. It need not surprise us to find that they are ultra-violet rays which do not readily penetrate glass, as there are other well-known rays which do not penetrate glass. The surprising characteristic of cathode rays, as Lenard has found them, is the uniform difficulty they have in passing through bodies of different materials. Apparently Röntgen finds much less uniformity in this particular.—*N. Y. Sun.*

The first photograph which Prof. Schuster showed me was a half-plate print on albumen paper, exhibiting the effect of interposing a human hand between the source of light and the sensitive plate. The outlines of the flesh were only faintly defined, because the flesh was comparatively transparent to the radiations; the bones of the fingers were very plainly shown, with the knuckles clearly defined; a signet ring on one finger was the most distinct feature in the picture. The whole effect was that of a badly-defined skeleton hand with a ring on one finger. No camera had been used, because, as Prof. Schuster explained, the new light—or radiation as the professor preferred to call it—differed from ordinary light in some of its most essential features. So far as is yet known it can neither be reflected nor refracted; the lens has no power to concentrate it and form an image in the usual way. All the photographs taken with it are in the nature of shadows, formed by interposing various substances in the path of the rays. —*Photo. News.*

A very sensitive Cramer dry plate about four inches long and one and one-half inches wide was put, film side up, into a wooden box having a close-fitting sliding wooden cover. Upon the sensitive plate were laid two clear glass slips, less than one-sixteenth of an inch thick. A space was left between them about four inches long and one-half of an inch deep. Across the glass slips to hold them in place was put a narrow bar of pine wood five-sixteenths of an inch thick. The wooden cover, three-sixteenths of an inch thick, was then pushed into place. The wooden box thus prepared was placed within a covered pasteboard box, the walls of which were about one-thirty-second of an inch thick. The pasteboard box with its contents was placed one or two inches from the brightly fluorescent part of an ordinary spherical Crooke's tube, and the action was maintained with this arrangement about two minutes, when the tube became so hot that the operation was stopped. The sensitive plate was then taken out and developed with rodinal.

Soon the part which had not been shielded by the glass slips began to show dark, and in a very short time the development was completed, the boundaries of the exposed part of the plate being well defined for the whole length of the plate. The image was then "fixed" in the ordinary way.—*Prof. Trowbridge.*

The apparatus is set up in the following order: First the object to be photographed (metallic), then the organic substances, then the Crooke's tube, and last the photographic plate in a wooden or vulcanite holder.—*Pop. Science.*

It is idle to speculate as to what may be the outcome of further research when one thinks of the possibilities of the case. *Now* we make lenses of glass and encase them in opaque aluminium tubes. Presently we may be using lenses of aluminium mounted in glass tubes. The student will think that Shakespeare requires bringing up to date and made to say, "There are more things in optics and chemistry than are dreamt

of in our photography.—*Thos. A. Bolas, in Photo. News.*

In one way it will be anything but a great boon. It will add unspeakably to the horrors with which the kodak is regarded. It is bad enough even now, when one is in an undesirable or ludicrous attitude or situation, to hear the "click" of that infernal machine and to realize that the attitude or situation has been perpetuated for one's future confusion, or it may be condemnation. How much worse will it be when the merciless instrument has the power of piercing not only one's clothing but the flesh as well, and reproducing, it may be, one's mental condition. How can we tell that one's very thoughts may not be laid open to this new power which passes through all fleshly disguises as easily as light does through glass. There is something so horrible in the possibility that one is almost tempted to doubt whether the discovery is not likely to prove a curse rather than a blessing. It will certainly be necessary in the interests of humanity to restrict very materially the licence enjoyed now by the owner of a "kodak" or a "Hawkeye" or any other portable invader of one's privacy.—*Detroit Free Press.*

A New York physician, who is an ardent and distinguished amateur photographer, said recently that he thought one of the great values of Prof. Röntgen's discovery would be the impetus which it would give to work on color photography. In his opinion it was the invisible rays at the violet end of the spectrum which kept color photography from being now in everyday use. What he hoped from Prof. Röntgen's discovery was that photographic inventors would be able to use it so as to exclude the invisible rays from the camera. —*N. Y. Times.*

Prof. Henry Morton, of Stevens' Institute of Technology, at Hoboken, is not as enthusiastic in his belief in the new discovery as Mr. Edison. Morton doubts the practicability with regard to some of the experiments, but does not deny the possibility of the process.

"It puzzles me," said Prof. Morton, "to understand how an object enclosed in a box could be photographed, for the simple reason that the box is opaque; that is, impervious to light. There's an obstacle that has to be explained away before you can go any further. I was discussing this subject with Mr. Edison only a few days ago, and heard his theory about it, but I confess, with the exception of the hand negative, I am as skeptical as before."

Prof. Morton is an expert in electrical and metallurgical matters, and knows all about photography. There is scarcely any test that he has not made with the lens and photographic plates, and he declares that if the new discovery should prove correct it would revolutionize science and destroy the basis of some of the cardinal principles that have been developed and adhered to by scientists for years and years.

Since the above was prepared for press, early in February, the modifications and advances made in the "new photography" have been so numerous (and so rumorous) that they cannot be mentioned here. The time of exposure has been much reduced, Mr. John Carbutt having succeeded in obtaining impressions with exposures of twenty-one and twenty minutes. These results were shown before the Photographic Society of Philadelphia at its last meeting. Mr. Carbutt has produced a new plate, specially adapted for the "new photography," which he calls the Röntgen X-Ray Plate. In his experiments Mr. Carbutt found that his Tabloid developer enabled him to greatly reduce the time of exposure.

In our next issue we will endeavor to present practical information as to the usefulness of the discovery.

MOUNTING PHOTOGRAPHS ON GLASS.

ONE of the most effective ways of mouning photographic views, art panels, genres, etc., for decorative purposes, is to mount the prints in optical contact on glass. The method by which this is generally done in Europe, where prints so mounted are more commonly seen than in this country, is exceedingly simple, and should be known by all photographers. We reprint the method here in answer to the inquiries of several subscribers.

First. Select as many flawless and colorless sheets of glass of suitable size as there are prints to be mounted; clean these thoroughly on both sides, and stack them ready for use in some convenient place where they will be protected from dust.

Second. Trim the prints to be mounted to a trifle less than the size of the glass plates to be used, and lay them flat, under slight pressure, until wanted.

Third. Soak, say, four ounces, of any good, soft, "slow-setting" gelatine, such as Nelson's No. 2 soluble, in a quart of water, and when it is well softened thoroughly dissolve it by placing the pan containing it in a larger pan of water on a small gas stove. Just before commencing to mount the prints thin the gelatine solution down to about the consistency of collodion or negative varnish, keeping it warm in the water-bath during operations.

Fourth. Secure a level table, mop away all surface dust with a damp cloth, and see that the room is fairly warm. On a portion of the table lay down a piece of thin oil-cloth, and have at hand a good rubber squeegee (not the roller variety), and a clean cloth with a basin of warm water.

Now place two porcelain or enamelled trays on another part of the work-table, and fill them reasonably full of warm water. All being thus prepared, the further work must be done as expeditiously as possible. The gelatine solution is presumed to be ready for use—warm and of the proper consistency.

Take a glass plate from the stack and lay it in one of the warm-water baths until it is warmed through. Place a print in the other bath until it is limp and lies flat. While an assistant takes the print from the water and suspends it in his fingers to drain for a few moments, the plate should be removed from its bath and likewise drained until the surplus water has run off.

The plate, still wet, is now evenly coated with gelatine solution exactly as a negative is varnished, neither too much nor too little solution being employed, but just sufficient to thoroughly cover the whole surface. It is then quickly laid down on the oil-cloth (coated surface uppermost), and the drained print carefully laid down upon it, face downward, just as in sensitizing silver paper. Care should be taken to so lay the print on the glass as to prevent the formation of air-bubbles between print and glass. A sheet of thin India-rubber, or oil-cloth, is now laid over the back of the print, and the squeegee is applied with a firm straight stroke over the back of the print, commencing about two-thirds from the top edge. The second stroke of the squeegee is made in the opposite direction, and then crosswise. The object of this is to press the print into absolute contact with the glass, and expel any air-bubbles which may have formed between the two.

If the squeegee has been properly used, the print should now be attached firmly to the glass plate, and, removing the India-rubber cloth, the plate and print together may be lifted from the table, and the picture viewed through the front of the glass to see whether the print is everywhere in optical contact. If any air-bubbles are seen the plate should be laid down on its

face again and the squeegee applied to the back as before to remove the bubbles.

When the mounting is seen to be perfect, the print on its glass-mount should be carefully held in one hand, and the superfluous gelatine wiped from the edges and front of the plate with a wet cloth. The mounted print is then put away carefully in a warm place, print uppermost, until it is thoroughly dry, when the glass surface may be perfectly cleaned and polished, and the edges of the print cut away if they should overlap the glass-mount.

In practice the method will prove quite easy, provided that cleanliness and deftness are combined in manipulation.

A STATE ASSOCIATION FOR PENNSYLVANIA.

For some months past Messrs. J. Will Kellmer, Hazleton, and E. E. Seavy, New Castle, have worked enthusiastically for the organization of the photographers of Pennsylvania into a State Association. We are glad to report their success. At a meeting held a few weeks ago at Harrisburg, Pa., attended by photographers from all parts of the State, the Photographers' Association of Pennsylvania was organized. M. R. Hemperly, Philadelphia, was elected President; Taylor Griffin, Wilkesbarre, First Vice-President; J. B. Shriever, Emporium, Second Vice-President; E. E. Seavy, New Castle, Secretary; and M. J. Goldman, Reading, Treasurer. The convention of the new Association was appointed to meet at Harrisburg, Pa., January 26 to 28, 1897. During the year an active endeavor is to be made to secure the practical support of every photographer in the State. All particulars as to membership, etc., may be obtained from the Secretary.

We would urge upon our Pennsylvania subscribers the advantages of membership in this Association which has for its sole aim the furtherance of their business interests and the promotion of fraternal good will. It is the duty as well as the privilege of the photographer to support his State Association, where one exists, in every possible way. The result cannot be otherwise than beneficial, whether considered from a social or business standpoint. We congratulate Messrs. Kellmer and Seavy upon their good work, and offer our help to the Pennsylvania Association.

STATE CONVENTIONS.

BY GEO. B. SPERRY,
Secretary of the P. A. of Ohio.

By holding aloof from one another and declining to discuss their methods of doing business, photographers deny themselves of their best opportunity for improvement. In no other profession are the ways and means of success so varied. In no other business are patrons so quickly attracted by originality (if artistic), and so easily induced to enlarge their orders. By gaining a knowledge of your fellow members' methods you not only better yourself but you also benefit the profession.

To benefit the profession is to benefit the individual. The impetus is far reaching. Its undulating waves may reach unexplored nooks. Anything that gives prestige to your business adds to your social dignity at home and can in itself solve the price problem. This prestige

can best be accomplished, not by individuals, but by associations. In no photographic gathering is the necessary "fellow feeling" so prevalent as at the State meets. Members get in touch more readily. To get a man's best thoughts, warm him up socially. This "fellow feeling" is important. When you melt the crust of suspicion and distrust that encases the average man you will find him all generosity.

As an Ohio photographer, I am proud of the achievements of our State Association. Its exhibits rival the National, and its meetings are more instructive.

It has the only Salon ever inaugurated in this country by professionals. The success of this new departure shows that photographers are deeply interested in the artistic development of their profession. If your State has no organization it is because no one has taken the initiative. If it has one, give it the benefit of your influence. Help the association, and the association will help you.

A PHOTOGRAPH IN THE COLORS OF NATURE.

FROM the common-sense standpoint the prominence given of late years to the subject of color photography has resulted in disappointment. Theories and experiments, however interesting to the specialist, fail to satisfy the disinterested majority who judge success solely by results—there have been so many theories and so few facts, and the experimental results published have fallen so far short of all expectations.

As our readers know, we have taken a somewhat conservative view of the matter. Only the most reliable theories of color reproduction have appeared in the MAGAZINE, and we have repeatedly refused to publish "color photographs" offered, which were simply reproductions of paintings, lithographs, chromos, and the like. These are not photographs from nature in the colors of nature. This course has been followed because for some years we have watched with growing interest the efforts of Mr. R. D. Gray, of our city, to reproduce actual scenes from nature with their natural coloring by photography. Our faith in Mr. Gray and his work has increased as his results have been shown to us from time to time.

An outline of his method, as well as reports of his progress, have appeared in our pages. His one aim throughout has been the faithful reproduction of nature itself, and his work has been prosecuted from the artistic, rather than from the commercial point of view. Mr. Gray's first aim was to produce color transparencies which would give actual color photographs of natural scenes by projection.

Early in 1895 he had so far succeeded as to be able to give a public exhibition of his results, projecting, by means of an optical system of his own devising, upon a screen fifteen feet in diameter, pictures of American and foreign scenes with a fidelity of color-reproduction never before attained. Speaking of these exhibitions, the *Scientific American* said: "Mr. Gray's success in demonstrating the practicability of projecting photographs in colors is certainly an advance in this line of work. . . . In pictures of autumn foliage the delicate reds and yellows appeared to great advantage. In photographs of distant mountains the azure blue of the sky, covered with scattered white clouds, appeared with most natural effect, contrasting finely with the snow-clad peaks and the browns and greens of the foliage below."

The view of Lake Lugano, which we give to our readers in this number of the

MAGAZINE represents the first fruits of Mr. Gray's efforts to apply his process to illustrative purposes. As a direct reproduction by photography of a scene from nature, the fidelity and close approximation of the picture to the original offers practical proof that Mr. Gray has advanced upon the results hitherto attained. Particular attention should be given to the fact that the picture is printed from half-tone etched blocks and is not a gelatine print. Of the latter there are many examples, but the production of color pictures from screened and etched blocks has presented many difficulties. There have been those who have asserted that these difficulties were insurmountable. But skill and long experience have devised ways and means, and the picture we give is the fine result. We regard the picture as a remarkable success and the most perfect thing of its kind of which we have knowledge.

The color negatives were secured by Mr. Gray on his European trip last summer, and the prints were made by the Photo-Colortype Co., of Chicago.

This company was organized hardly two years ago, and at first sought to make color plates for sale to printers. This proved a failure, the average printer being quite unable to produce satisfactory prints. Consequently the company installed a cylinder press of considerable capacity to print its own blocks. Their success has been so rapid that they are now running eight presses and have contracted for more. The establishment is so crowded with work that the presses are being run all day and far into the night to supply the demands made upon their facilities.

By adhering strictly to the principle of good work at a fixed price the Photo-Colortype Co. has built up a national reputation, and their correspondence comes from all parts of the world. The originators of the methods of this company are Messrs. Lau and Schmidt. The company employs in all about fifty people, comprising the most expert photographers, etchers and engravers obtainable. The printers are of the highest class of skill. We congratulate Mr. Gray and the Photo-Colortype Co. upon their enviable success and look with confidence for greater perfection in the near future.

Lake Lugano is one of the most beautiful of the many picturesque lakes of the Alps. It lies upon the borders of Switzerland, reaching its arms into Lombardy, about a day's journey from Milan. We believe our readers will share the pride we have in the fact that photography can give us so exquisite a reproduction of this famous scene.

OUR PICTURES.

THE pictures which embellish our current number are very attractive and interesting. First, we call attention to the half-tone engraving of the bridal group, made from a flashlight photograph, negative by Mr. J. Ed. Rösch, of St. Louis, Mo. It appears by special permission of all the parties interested. Before we become guilty of neglecting it we desire to say that the picture is copyrighted. The original negative is 14 x 17; the reproduction was made by the A. C. Austin Engraving Co., Albany, N. Y. The group is of the wedding party which made everybody so anxious for every item of news concerning it a few weeks ago, namely, of the Von Goutard-Busch marriage at St. Louis. The newspapers at the time published very extensive details concerning this noted event in these wealthy families, and this picture was roughly reproduced by some of the news-

Flash-Light Photograph. (*Copyrighted* 1896.) *J. Ed. Rösch, St. Louis.*

THE VAN GOÜTARD-BUSCH WEDDING PARTY.

Engraved for WILSON'S PHOTOGRAPHIC MAGAZINE *by special permission.*

papers. It was the only picture taken of the bridal party, and was made under highly interesting circumstances. It was made in the elegant drawing-room of the Busch mansion at midnight, Friday, after the dinner given by Miss Tolie Busch to her sister and prospective brother-in-law. Mr. Rösch used an improved flashlight apparatus, especially introduced by him for this purpose. Heretofore there has always been such a dense volume of smoke that flashlight photography in houses, especially in residences as handsomely draped and decorated as the Busch mansion, has been objected to on that account. But Mr. Rösch constructed a smoke confiner, which did entirely away with that seriously objectionable feature. The smoke confiner held all the smoke emitted during the exposure, and was then carried outdoors and relieved of its charge in the open air, where no harm could be done. Only one exposure was necessary to produce a perfect impression. The bridal party was ready for the after-dinner dance, when Mr. Rösch, accompanied by his brother and a corps of assistants, appeared, to take the picture. As soon as the flash occurred the party was released.

The "Harem" group is from a negative supplied by Mr. Louis F. Jansen, of Buffalo, N. Y., and the prints were made by the phototype process of the F. Gutekunst Co., of Philadelphia. It provides an excellent example of "Beauty" photography of the class we have been writing about for some time, inasmuch as Mr. Jansen shows that he has carefully and artistically used accessories to make up his picture with great effect. Take this example of work with the remarks which have been in our numbers recently upon "A Pilgrimage for Pictorial Effect in Photography," and it will serve a good purpose. Mr. Jansen is one of our younger photographers, bound to succeed; and we have pleasure in adding a little sketch concerning him, and his portrait, in another place. Another inset is provided by "Hard Times, Cap'n," which is reproduced by the Photochromotype Engraving Co., of Philadelphia, from a 14x17 print of a negative made by Mr. E. H. Berlin, Blairsville, Pa. The picture is copyrighted. It is a splendid character sketch, full of life, natural in arrangement, without any pretense or effort after effect, and it does great credit to the artist. Mr. Berlin is one of our most enthusiastic believers in art principles as applied to photography. He makes us "all the more welcome to use the picture because it may help in some measure to repay you for the valuable art principles I have found so helpful, which you have been so long advocating in your MAGAZINE." Mr. Berlin finds the production of such pictures as this "good exercise." He is ready to supply duplicate prints to any who wish, mounted in excellent style on large, heavy, 22x26 plantinotype card, at $2 each.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XIII.

A THOUSAND-DOLLAR POINTER FROM PATTISON.

EARLY in 1895 a Pennsylvania photographer, apparently believing that I was a wellspring of bright, original schemes for business getting, sent me a long-winded letter full of compliments, winding up with a request for a plan which would serve to advertise his business and at the

same time bring an immediate increase in his trade without too largely increasing his running expenses. I smiled as I read the letter, for it seemed a fairly large order to fill; and it came at a time when I was so pressed with work that thinking out business schemes was out of the possibilities.

Among other things, his letter told me that he had a ten years' reputation for good work in a town and district of 43,000 inhabitants; that he had a complete equipment for fine portrait work, and more spare time than he liked. It was an average case of business dry-rot and a clever writer of letters running to waste.

After a day or two I wrote him briefly that I thought his powers as a persuasive correspondent could be made profitable if properly applied. Then followed directions to go over his stock of old portrait negatives and pick out 300 or 400 likely subjects for duplicate orders. From these negatives I advised him to make prints on matt paper, tone them with platinum, and mount them on a new style mount. When finished these prints were to be sent to the sitter in each case, with a typewritten letter drawing attention to the new styles in prints and finish, to the fact that duplicate prints could be had without the trouble of resitting or proofs, and any other fact that seemed likely to induce an order for duplicates or a new sitting.

This plan, as I told my correspondent, would at least keep his business before his old patrons, and might bring in enough new business to fill in whatever spare time remained after the effort was accomplished. This done, correspondent and correspondence were alike forgotten.

A few weeks ago I was surprised to get another letter from this photographer enclosing the renewal of his subscription to the MAGAZINE for 1896. This time the letter wound up with a different story. It said: "See the October number of the *Professional Pointer*, and the article on 'Keep in Touch.' It gives to the fraternity the suggestion you sent me hardly a year ago. I followed your suggestion, and up to the present have traced fully one thousand dollars' worth of business as the result, and I have no more 'spare time.'"

From this it is plain that the "Keep in Touch" article written by Mr. T. W. Pattison, and published in Anthony's *Professional Pointer* for October, 1895, should be worth $1000 a year to the photographer who will put what it advises into practice, provided he has a good stock of old negatives on his shelves, and can either write a persuasive letter to draw business or has the courage to hire a correspondent and make the effort.

Inasmuch as the *Pointer* goes to between 6000 and 10,000 professional photographers every month, I suppose most of my readers have a copy of the October issue, hence it is unnecessary to reprint the article here.

The answer given by Mr. Lamson to Question 9 in the paper on "The Present Condition of Photography as a Business," at page 89 of the last number, adequately supports Mr. Pattison's suggestion in his *Pointer*. This is not a puff for the *Pointer* or Mr. Pattison; but I think the matter is too suggestively valuable to the fraternity to be overlooked or forgotten.

Hales' metol developer, said to be simple and reliable, is made up as follows:

Metol	75 grains.
Sulphite of Soda . . .	2 ounces.
Water	16 "

Hydroquinone developer can be increased in power by the addition of a few drops of spirits of turpentine to the usual amount of developing solution. This gives negatives a great density.

THE COMBINED BATHS.

BY DR. JOHN NICOL.

SINCE my article on the above subject appeared in *Mosaics*, 1896, I have had a number of letters, some of congratulation and thanks, but also some telling of failure to secure such tones or colors as they desired, and asking why. Although I have replied to all to the best of my ability, there may be some who have equally failed, but not written, and to them the following statement may be of use.

I have more or less regularly employed something like the formula in question ever since its first introduction by Hardwich in 1855, and with such satisfactory results that it never occurred to me that there might be conditions on which that success depended, and consequently I never looked for them. The original formula included a trace of silver nitrate, but as I invariably placed the prints into the bath without previous washing, I knew that if silver was necessary it was supplied in that way, and very soon ceased to add it. Very soon, also, I discovered, or at least had an impression, that the bath wrought better after having been a short time in use and got into the habit of adding the new to a portion of the old. I kept a sixteen-ounce bottle full, and, when prints sufficient to exhaust the gold had been toned in it, poured away eight ounces and filled up the bottle with a fresh eight ounces.

Working in this way for about forty years, and, so far as tone or color was concerned, with unvarying success, it naturally surprised me to hear of failures, and induced me to look for the cause and cure, and I think I have found both.

In toning and fixing by separate solutions, toning by simple chloride of gold, it is necessary, or at least desirable, that the solution should be alkaline; but, the double salt, hyposulphite of soda, and gold, the state in which the gold is in the combined bath, the reverse is the case, the bath should be slightly acid; as, although an alkaline bath *will* produce suitable colors, it will only do so after as many hours as an acid solution requires minutes. If a freshly-made combined bath is just neutral the addition of a trace of silver nitrate or bromide will in a very short time give it an acid reaction, and consequently after the immersion of a few prints it will be in the best condition for work; hence with the Walpole or other pure and strictly neutral hypo, it is desirable to neutralize the gold. But the ordinary commercial hypo is generally alkaline, and frequently very much so, and a neutral solution of gold added to it leaves it sufficiently alkaline to make toning tedious and to require the immersion of many prints before the necessary degree of acidity is reached.

Under ordinary circumstances, then, it will be better not to neutralize the gold, but just add it to the hypo solution in the state of acidity in which it is sent out by the manufacturer, and should the hypo have been so alkaline as still to tone too slowly and show that it is so by testing with litmus paper, the addition of a drop or two of acetic acid, just enough to show a very slight acid reaction, will bring it into good working order, and enable the photographer to feel as did a correspondent who wrote me a few days ago, "I think at last I am getting on the right track, and it is owing to your suggestion not to neutralize the gold and to the litmus paper showing the degree of acidity of your bath. The tones of the prints I enclose are perfectly satisfactory to me."—*Verbum Sap.*

ELEMENTS OF PRESERVATION *VERSUS* ELEMENTS OF DESTRUCTION.

BY D. BACHRACH.

As the stand I have taken against emulsion print-out papers seems to be approved and backed up by an ever-increasing number of photographers who have been afraid or ashamed to acknowledge their mistake, much less to "speak out in meeting," I feel it may enlighten the readers by giving some of the grounds of my opposition to the use of these papers, based on some well-defined tests, of a kind that convince, made about a year ago. They were made as carefully as I could with the little spare time I chose to devote to them and to other experimental work on (must I acknowledge it?) Sundays, as they are my days of leisure, not of business, as with too many of our craft. We heard very much a few years ago of the instability of albumen as a vehicle for the print as compared to collodion, or even the compound mess of gelatin and alum. But pray, gentlemen, what is the use of the *vehicle* as an element of preservation when the print itself is a weak hot-house plant, incapable of withstanding the cold blasts and elements without, while the print in the despised vehicle, albumen, is robust and hardy, and capable of withstanding the elements of destruction?

But now to the tests, which can be followed by any ordinarily intelligent photographer and be certain to reach the same result. I selected forty of each, collodion, gelatin, and albumen prints, cabinet size, full out, strongly printed and fully toned, in order to make the test I am about to describe fair and equitable. All were toned in separate gold baths, not combined, fixed, washed, and dried as usual.

I carefully burned each batch to fine ashes in a porcelain mortar. Each lot of ashes I put into a bottle containing ½ oz. muriatic acid, ¼ oz. nitric acid, and 16 ozs. water, digesting for twenty-four hours in a warm place. I then decanted the liquid of each one and added sulphate of iron solution in the usual way to cause a precipitate of the gold contained therein. I have precipitated gold in this way so frequently that I can readily detect the slightest trace of it by its color and rapid falling to the bottom when shaken up. Now mark the result. In the one containing the residue of the collodion prints a trace of gold scarcely discernible was present. In the one containing the gelatin residue a more decided, but still very faint, trace of gold was present, about double as strong as shown by the collodion residue. In the one containing the albumen prints residue a very decided precipitate of gold was produced, *fully eight times that of the gelatin*, and, as near as I could judge, about ¼ grain of metallic gold, possibly more.

The result was no surprise to me, as it simply demonstrated what we all know, viz.: that albumen prints actually receive more gold from the toning bath in the process of substitution than do the emulsion prints, partly, of course, because more silver is reduced and it is present in a coarser grain.

Prints on plain paper, *per contra*, by a test I made some years ago, show only about half the quantity of gold that albumen prints do, but from the absence of any organic medium and the fact that the silver is still coarser in grain and more closely allied to the pure metal after the action of light, they are the most permanent of all forms of silver prints. Unquestionably where platinum salts are used for toning, and that is carried to a pure black, the prints may be pronounced absolutely permanent so far as the elements

of destruction in our atmosphere are concerned.

While at the present writing the matt-surface collodion papers, *or some of them,* seem to yield prints that stand better than the glossy emulsions, I know of at least one brand, now out of the market, the prints on which were even less permanent than on glossy emulsions. Hold on to that which you know to be good.

BLACK TONES ON VELOX PAPER.

THESE can be obtained with nearly any developer, provided the developing solution is sufficiently strong and contains just enough bromide of potassium to avoid fogging. Too much bromide of potassium, or a too weak developer, or overtiming, will cause greenish or brown blacks. Too little bromide will cause fogging of the prints. As developers we can recommend especially oxalate of iron, amidol, metol, or metol-quinol. The exposure can be made near a Welsbach gas burner, or by diffused daylight, or by arc light. If kerosene or gaslight is used the exposure must be considerably increased. The nearer the negative is held to the lamp the quicker will be the impression. A good gas lamp or strong kerosene lamp will give a print in about one or two minutes from an ordinary negative, at a few inches distance.

Iron Oxalate.

Solution 1.

Neutral Oxalate of Potash	16 ounces.
Hot Water	48 "

Solution 2.

Proto-sulphate of Iron	8 ounces.
Hot Water	24 "
Citric Acid	15 grains.

Let both solutions cool off before use, and put them in separate bottles, where they will keep for months in good condition. The iron solution should be kept well corked, and should not be used unless perfectly clear and green.

Immediately before use measure off four volumes of Solution 1, and pour one volume of Solution 2 into it while stirring. Do not pour Solution 1 into Solution 2, as it will not give a clear solution. Add bromide as directed, and wash prints in diluted acetic acid before fixing.

Amidol.

Water	8 ounces.
Sulphite of Soda	100 grains.
Amidol	20 "

Add Bromide as directed.

Metol.

Water	12 ounces.
Metol	50 grains.
Sulphite of Soda	1 ounce.
Carbonate of Potash	120 grains.

Add Bromide as directed.

Metol-quinol.

Water	20 ounces.
Metol	15 grains.
Sodium Sulphite Cryst.	1½ ounces.
Hydroquinone	1 drachm.
Potassium Carbonate	5 drachms.

Add Bromide as directed.

With any one of these developers development is very quick and takes only a very few seconds. *In fact, a tray is not needed,* as the exposed print can be put on a glass plate or on a piece of oil-cloth, and the developer spread over its surface by means of a brush. The image will appear suddenly; as soon as it is strong enough throw the print into a fixing-bath, where the prints should remain five minutes or longer, then wash as usual. The acid hypo bath is recommended, because it has a hardening action on the film and keeps clear for several days. Such an acid bath can be obtained by adding about 1 ounce of alum to every 4 ounces of hypo. Make the bath about 60 to 80 hydrometer test. If the hypo becomes alkaline add a few drops of acetic acid.

Any superficial stains, either black or yellow which may appear, can be easily removed by rubbing gently with a tuft of cotton moistened in water containing a few drops of ammonia.

A special kind of Velox paper for black tones is now obtainable, which is somewhat quicker than the usual paper, and an extra rough paper, which gives prints resembling steel engravings.

ENLARGING WITHOUT A CAMERA.

An easy method of enlarging a cabinet negative to 8½ x 6½, or thereabouts, is described by J. Pike in the *Practical Photographer*. The dried cabinet negative is taken, and a sharp knife-edge run along each edge of the plate just within the part left unexposed by the rabbet of the holder. The plate is then placed, film uppermost, in a bath of

Hydrochloric Acid . . .	½ ounce,
Water	3½ ounces,

and the tray is rocked for half a minute or more, until, with the finger-tip or a camel's-hair brush, the edge of the film may be lifted up. The whole film is then gently pulled away from the plate and transferred to a larger dish of water and opened out carefully. Expansion here takes place. When the film has reached its maximum enlargement, about 7 x 9 or 8½ x 6½, it is transferred to a third tray of water in which has been placed a clean glass plate of the required size, previously coated with enamel collodion or a solution of rubber in benzole (half-drachm rubber, such as is used to repair pneumatic tires, and two ounces benzole), as a substratum. See that the negative is not reversed during these operations. Once transferred to the large plate, the water is drained from the film and its support, and a damp napkin laid on the film. A roller squeegee may then be used to expel the remaining water, and the negative may then be placed on end to dry. The roller squeegee should be true and soft. When dry the enlarged negative will generally need intensification, which may be done in the usual may with mercury, etc. Of course, an occasional failure will be met with in stripping the film from its original support. Patience and a little practice will, however, make the process reasonably certain of successful results.

EDITOR'S TABLE.

MR. G. GENNERT, 24 E. Thirteenth Street, New York, advises us that he is introducing a new line of non-linting blotters, known as Robinson's Royal Blotters, chemically pure and throwing off no lint, well adapted for photographic purposes. Mr. Gennert has also accepted the sole agency in this country for Elliott & Sons' English Carbon papers, made in fifteen different colors. These papers are famous abroad for the fineness of the pigments used in coating, which gives a print without grain or coarseness. He also announces a new front focus camera for the spring trade. It will be known as the Oxford Camera, and will have all modern movements and improvements. The price, about $20, is extremely reasonable. Eagle Satin albumen paper, for which Mr. Gennert is sole agent, is enjoying a boom. This paper is coagulated on an alcohol bath, and cannot blister. It is in every way a reliable paper and well worth a careful trial.

THE Photographic Society of Philadelphia during February presented before its meetings papers dealing with Prof. RÖNTGEN'S investigations; the new Convertible Anastigmats of Messrs. Ross &

Co.; Explorations in the Mountains of British Columbia, by Mr. S. E. S. ALLEN; Gothic Architecture as illustrated by English Cathedrals, by Dr. CHARLES L. MITCHELL; and exhibited a display of exquisite landscapes, covering Picturesque New England, by Mr. HY. TROTH.

Sensitised Papers. By Dr. H. C. STIEFEL. This popular handbook on emulsion papers has been translated into many languages and enjoys a large sale in Europe. The latest translation to appear comes from the publishing house of HARTLEBEN, Vienna, and is printed in German. Price, 3 m. 80 pf. The American edition of Dr. STIEFEL's book, treating freely of the various American print-out papers and their manipulation, may be had from the office of this MAGAZINE. Paper covers, one dollar, post free.

A GOLD MEDAL FOR MR. MOTES.—We report with much pride and personal pleasure that the gold medal and highest award for photographs has been given by the Atlanta and Southern States Exposition to Mr. C. W. MOTES, Atlanta, Ga. We know from the experience of some years of Mr. MOTES's work that the coveted honor has been worthily bestowed.

MR. J. N. POUNDSTONE, Benton Harbor, Mich., sends his portrait and says: "We are enjoying a fine season for business. WILSON'S MAGAZINE is all right, always welcome, always helpful. Keep it going."

MULTIPLE PICTURES are very popular in New York just now. Properly introduced these novel portraits may be made very profitable. The best method of making multiples is to use the Multiplying Plate-holder made by Mr. PETER DILLER, Bluffton, O. Mr. DILLER will send all particulars on request.

THE MEMORIAL FUND in honor of the late J. TRAILL TAYLOR has reached over $500. It is proposed to form a series of lectures on photography as the outcome of this fund. About $3000 are required. American admirers of Mr. TAYLOR should be glad to help in this good work. The American Secretary of the Fund is Mr. F. C. BEACH, 361 Broadway, New York.

AN EXCELLENT COLLECTION OF ADVERTISEMENTS, useful to all who write business persuaders and are ambitious to get them properly displayed in type, has just been issued by the INLAND PRINTING CO., Chicago. It is a very suggestive book and well worth its price, 50 cents.

BOSTWICK'S ANTI-HALO is the latest convenience offered to the photographer for the prevention of halation in photographing white draperies, windows, interiors, etc. It is a reliable article and the only thing of its kind on the market. Sold by Messrs. E. & H. T. ANTHONY & CO., New York.

Mosaics, 1896, is almost sold out. Only a few copies remain. Those who want the help this best of annual offers, with its practical papers and useful pictures, must send their order at once. Paper covers, 50 cents, post-paid, to any address.

GOERZ ANASTIGMATS.—The latest edition of the *Compendium of Photography*, a valuable German handbook, says of the new Goerz Anastigmat:

"The doublet type of lenses with large field includes the latest form of double anastigmats by C. P. GOERZ. It differs from the aplanatics principally in that the front and back lens consist each of three cemented lenses. Its superiority over all other lenses is, briefly stated, due to its power of sharply covering the largest plate at full aperture. It is, therefore, specially adapted for instantaneous and portrait photography, and if suitably stopped forms an excellent lens for landscape, architecture, and other branches of photography. It possesses extraordinary qualities as a copying lens In this respect it distinctly excels over the best lenses of other firms. Besides, front and back lens can, by themselves, be used as landscape lenses.

"The double anastigmat is a true universal lens and is the best lens of our present time."

PHOTOGRAPHS RECEIVED.—Mr. CHAS. FRITSCH, Pittston, Pa., sends half a dozen cabinets from his recent work. They show the careful workman and much artistic discernment. The posing of the female figures is excellent. Mr. FRITSCH should feel encouraged to persevere.

Mr. E. S. KIBBE, Hartington, Neb., also sends specimens of his Christmas work, which are pleasing in many ways. We congratulate him upon his constant progress.

FROM Dr. R. L. WALKER, Carnegie, Pa., we have received some very excellent pictures of animals. One of them is a head of a mule, braying; it is the most successful picture of this particular class of subjects that we have seen. Though having often tried to equal it ourselves, we are eclipsed. Another, the head of a horse, is likewise very fine. The lens used was a "Beck."

THE DEMORALIZER has reached even a so far out-of-the-way place as Hayti. A worthy subscriber writes from Cape Hayti, West Indies: "You will be surprised and indignant to learn that an American called JAMES GRAHAM has invaded Hayti and dragged photography in the mire among us, by making cabinet photographs at $1.25 per dozen. He goes from door to door soliciting work, and will even make a single cabinet portrait for 12 cents." Our Haytian friend need not be discouraged. No man can produce good work at such a low price, and the public will soon discover the real quality of his productions, to the after-benefit of the photographer who gives good work at a reasonable price.

RECENTLY the *Daily Chronicle*, of London—so says the *British Journal*—"reviewed seventeen books on photography in thirty-two lines." Among other things the *Chronicle* says, "Many of these books, it seems to us, are published simply for the display of process blocks;" it also says, "We suppose there is a text some where in Mr. ———'s Annual; there are hundreds of advertisements and a large number of illustrations."

The *Chronicle* evidently does not take much stock in photography.

THE *Boston Transcript* says that "the *thought* camera is likely to become as useful as the telephone. Members of the same family can come really to know one another, friends can learn to forgive each other with larger charity when tests of friendship come, if the mutual snap-shots reveal undreamed-of necessities for forbearance and affection."

"THE DAGUERREOTYPE ART" is the title of a two column interview with Mr. JAMES LANDY, the veteran photographer of Cincinnati, published in a recent number of the *Commercial Gazette* of that city. It is accompanied by a number of engravings of some of the old daguerreotypes made by Mr. LANDY, and gives some very interesting information concerning the making of the earliest pictures known in our art.

We expect to give some of the details of this interview presently, together with some other matter for ourselves, by Mr. LANDY.

FOR five of the latter days of January three sprightly, dark-eyed and dark haired, well-to-do-looking men were seen rampaging around our city together among the art galleries and other esthetic resorts, who appeared somewhat mysteriously to the gossips of the town. These were STRAUSS, of St. Louis, FALK, of New York, and STEFFINS, of Chicago. Their principal resort seemed to be the Holland House, about which they hovered considerably. The attractive object there was a number of magnificent new daguerreotypes brought here by Mr. STEFFINS to exhibit to his friends; and many friends there were who came to look and wonder at the magnificent results which have been obtained from the buff wheel and mercury bath of our friend in Chicago. The new daguerreotypes were fully equal to the old ones exhibited alongside, and more can be made like them at any time. Mr. STEFFINS has a fully equipped daguerreotype studio, and is doing a good business in the old art.

HOW THE MAGAZINE GROWS.—We are pleased to say to our readers that our circulation last year, owing to the value of our MAGAZINE, was largely increased, and we confidently predict that the coming year will bring it more friends and more patronage than it has ever known in its history. How much we have worked for this we need not say. We propose to continue to work.

A NEW PANORAMIC CAMERA.—The *New York Herald*, of recent date, devoted a column and a half to a description of a new panoramic camera invented by Mr. G. G. ROCKWOOD, 1440 Broadway, N. Y., and his friend Mr. MINTONVIEW, of Rochester, N. Y., 3½ by 14 inches in size. Doubtless the camera will soon be placed on the market. Mr. ROCKWOOD published in the *Troy Daily Times*, in November, an article entitled "Does Marriage Cause Likeness?" in answer to a question often made by the curious.

Gut Licht—Good light.—Under this curious title comes a new photographic year-book, published by UNGER & HOFFMAN, Dresden, Germany. The little volume, which is illustrated with several half-tone portraits, contains a unique chapter, giving the opinions of many German artists on the disputed question, "Is Photography an Art?" Of these opinions we have given extracts in the *Ground-Glass*.

Mosaics, 1896.—The way in which orders for copies of our *Mosaics*, 1896, have rolled in upon our desk during the past month assures us that *Mosaics* is the popular year-book of this year. It is full of good things, but few remain unsold. See the contents list among our advertising pages. Postpaid, 50 cents, in paper covers. Library edition, $1.

E. H. Berlin. (*Copyrighted* 1895.) *Blairsville, Pa.*

HARD TIMES CAP'N.

Accompanying WILSON'S PHOTOGRAPHIC MAGAZINE, *March*, 1896.

GRAVURE PRINT C. N.

CHICAGO PHOTO-ENG. CO. ENGRAVERS AND PRINTERS

THE RETURN FROM THE PYRAMIDS.

were busied in testing the applications of the new power. This proves the existence of a great body of scientific explorers always standing ready for skilled service in any quarter on short notice. Yet, further, the scientist rarely completes an investigation in any direction without first finding out "what photography has to say about it."

This habitual resort to photography has brought some of the brightest men in the world into the practice of our art. No one has more tangible evidence of this than the editors of our older photographic magazines. They find their editorial duties ten times more laborious and exacting (and important) than they were twenty years ago, for if they would keep apace with the growth of scientific affairs into the service of which photography is called as a helper they, must read and watch and work more than they had to when it was a shame to own to being a working photographer. How things do change!

The Ground-Glass was made very conscious of the mutability of things a short time ago, the result of a two hours' stroll "down the street" and some visits among photographic friends. One young dealer was found receiving congratulations upon the birth of his first child, which took place the day before; an old warrior was chatted with who had made sufficient money by the camera to offer to erect a soldier's monument in his native town in Connecticut; a junior editor told what hopes he had buried not so long ago in the decease of his first child; an old graybeard congratulated himself upon his age (after forty years' service): "Because," said he, "I never have to give up my seat to the ladies in 'the elevated,' and sometimes a lady offers me a seat;" a sick wife (he said) dispirited another veteran; near his desk sat a coworker who gave *The Ground-Glass* a choice of several photographs of his bride, with a request, "Please don't mention it in WILSON'S MAGAZINE;" an old subscriber was seen departing from the great bazaar where some of these incidents took place, with a happy face, bearing a new 8 x 10 camera and lens in his arms. ("Don't want it tied up?" said the salesman. "No, thanks," came the answer, "I am proud to be seen carrying it. It cost me many a hard day to earn it.") Nearing home, finally, *The Ground-Glass* was aroused from its reverie by an old friend and focusser, who bore "an accusing look and a damned unforgiving countenance" (Shakespeare), and then: "Hello! partner, what's up? Can't you find your way home?" He answered by exhibiting a batch of very disgruntled prints made on —— paper. They were bad enough to start an inebriate asylum. *The Ground-Glass* could only try to console him by saying cheerily, "Well never mind. It won't occur again. The company that made the paper has made an assignment and their product is now at a premium. Buy up all you can get of it and—throw it away. That ought to have been done long ago."

The editor of *Photography* is becoming alarmed. He says: "What next, please? First of all Röntgen, and now Dr. R. E. Liesegang startles the world, for he says in the *Naturwissenschaftliche Wochenschrift*: '*Steam on glass has been proved to be almost as light sensitive as the gelatino-bromide plates used for instantaneous work.*' What a terrible blow to the plate-makers this will be. We shall have no more dry-plates; all that we shall require will be a kettle of boiling water and a plate of glass; and we shall not require daylight either, for, combining the two discoveries, the X-rays will in the dark produce a picture in steam on glass. What a treat to be able to do away with pyro, metol, and all the

may obtain prints, is given in the special offers in our advertisement pages. It will be seen that those who send $4 during this month can secure a copy of *Wilson's Cyclopædic Photography* (price $4), a copy of the new edition of *In Scripture Lands* (price $1.50), and a liberal assortment of photographic studies. Those who renew their subscription to the MAGAZINE and send $7 can secure, in addition to the MAGAZINE for a year, either *Cyclopædic Photography*, or *Quarter Century in Photography*, or *Photographics* (price $4 each), and *In Scripture Lands* (price $1.50), and a larger assortment of photographs. These special offers are for cash accompanying orders sent to this office direct, and the parcels will be sent by express at the purchaser's cost.

A glance at the detailed announcements of the special offers and of the several books mentioned will show that here are opportunities which should not be neglected.

MY AIMS AND METHODS IN LANDSCAPE WORK.

BY L. V. KUPPER.[1]

PURSUING landscape photography as I do, more as a matter of love than as business, the pleasure and opportunities for observation it gives are a far greater satisfaction to me than the actual proceeds from the sale of my work, although my views find ready sale at fair prices.

To explain to others, however, what it is that impels me to photograph this or that scene so as to get a pleasing or artistic result is not an easy matter; even more difficult is it to give one's methods in picture-making, inasmuch as the conditions surrounding every exposure are widely different and demand separate treatment. This is the reason, I suppose, why so few of the books written concerning picture-making out-doors give satisfaction to the worker in the field.

As often as I can find time aside from my regular studio work, or when business is dull, the early mornings and late afternoons find me happy with a camera prowling around my neighborhood, which abounds with pastoral scenes. Sometimes I find a few cows or sheep pleasingly grouped, and yet get nothing but a photographic failure, because I reached the spot too late or too early for the right effects. But these pictures are often as valuable as successes. They generally teach one more.

A bicycle is a great help in journeying here and there in search of the picturesque, or to study a prospective picture with a view-finder before attempting an ambitious picture on a large plate. I am a thorough believer in the idea that it pays to get well acquainted with one's views before taking the camera out for the actual making of the picture. Every scene has its own appropriate setting, and rarely does the chance-shot result in the best presentment with every season; and at various times of day the face of nature changes in a wonderful manner. In his knowledge of these changes, and in his appreciation of their comparative pictorial value, the out-door worker will find the key of success.

Picture-making, where cattle or sheep are to be used to add effectiveness to the scene, is very largely a matter of patience. Those who are fond of animals and possess the rare knack of knowing just how to pet and coax them will generally have little or no trouble. The great aim should be always to make pictures, and not to be

[1] Engravings of Mr. Kupper's gems have frequently appeared in this MAGAZINE. Two are to be found herein on page 168.—ED. W. P. M.

content with a mere photograph. There are so many making photographs; so few who make pictures. A good standpoint, proper lighting so as to secure balance and harmony with the lights and shadows, the introduction of figures to add life or give balance to one's composition—these are among the many points which should have careful attention. Sometimes everything will appear favorable to a medal picture, and yet the result will disappoint. Yet we should not be discouraged, for photography has its limitations, and not all we see on the ground-glass looks equally effective in the print. At another time when the conditions do not seem so favorable we may secure a picture which passes our expectation.

I date my real advance from the day I first returned home without having made an exposure. The idea that the only pleasure in landscape work consists in the exposure of plates is a false notion which inevitably lowers the standard of the worker who clings to it in practice.

Neither will haphazard in exposure bring the best results. There should be care in all the details, from the setting up of the camera to the finished print. Some scenes are better represented upright on the plate, others are better shown on the long way of the plate. Sometimes the trimming of the print makes or spoils a picture.

To be able to see with the artistic eye is a great power. Some people have this naturally as a result of a strong feeling for the beautiful. But it is a power which may be cultivated by good reading and the study of such books as *Burnet's Art Essays.* The essay by Burnet on *The Education of the Eye* I have found to be most valuable in picture-making. So, also, I found the chapters on the "Application of Art Principles" and "Out-door Operation" in *Quarter Century in Photography* very helpful in my work. Last, but by no means least, the aspiring picture-maker has in WILSON'S MAGAZINE a constant revelation of the beauties of nature as the camera has portrayed them. These things are all intended for use, rather than for ornament, and the wise worker will not neglect them.

Learn to know what makes a picture, and bear in mind always what Mr. Wilson has so often said, that, in photography as elsewhere, not theory nor practice alone, but the two combined, make perfect.

HOW TO PRINT YOUR NAME ON YOUR PICTURES.

SOME curiosity has been expressed as to how the name of the photographer may be printed in black upon his prints. We have been given the following instructions by Mr. Mora, of the Eastman Kodak Co.: The name or other matter to be printed on the photograph is set up in type and printed on cardboard; from this make an exposure with an Eastman transparency plate, developing it strong. After the print has been made from the regular printing negative it is placed under the dense transparency regular negative and the name printed in. The only precaution necessary is to time the transparency negative properly and to develop strong, so as to get the necessary contrast. Photographers will find this a much easier and quicker method than the old one of printing upon tissue paper and fastening the name to the negative by means of varnish; moreover, the result is black instead of white, usually much more pleasing, especially for vignettes.

OLD TIMES AND NEW.

THE sight of the omnipresent amateur of the present day, "pushing the button," right and left, with little more trouble to himself than drawing his breath, occasionally causes the old-time wet-plate operator to institute a sharp comparison between the old times and the new; not always to the advantage of the latter.

It is not the purpose of the present rough sketch to deal at length with the trials and tribulations of the old-time amateur, but a short outline of some of the difficulties that beset his path may not be entirely uninstructive as illustrating the advance in

FIG. 1.

Vernon Royle, Paterson.

AN OLD-TIMER.

It is almost an axiom that we value things according to the difficulty we experience in obtaining them, and although handling a camera under the conditions that now obtain is a much cleanlier and more comfortable operation than it was in the wet-plate days, it is questionable whether the pictures now obtained give as much genuine satisfaction to the artist as when each proof represented so many hours of hard labor in manipulating plates under the most adverse conditions.

At the very outset, the question of the necessary apparatus presented a sufficiently grim obstacle, where the purse was light and the youthful amateur was frequently thrown on his own resources to design and construct the camera and other essential paraphernalia. The writer of this article well remembers "building" his first photographic methods during the past generation.

camera. It was in ante-bellum days. Everything went smoothly until the question of the bellows came up. Such articles could not readily be purchased at that time; so, after expending much ingenuity and making many experiments, the desired article was finally produced with the aid of an old pair of trousers, one leg of which, properly creased (but not in the present longitudinal fashion), proved an excellent substitute for the handsomer, but more expensive, commercial bellows.

With the possession of the outfit, however, the trouble only commenced. The real work began with the field operations; the photographer being under the necessity of carrying his dark-room and water supply with him in order to prepare and fix his plates on the spot. It required no small amount of courage to start out on a hot August day, taking along, as impedimenta, a box of glass plates, camera, tent, bucket of water, and full supply of chemicals.

Naturally, the most unsatisfactory part of the outfit was the tent, which served as a dark-room, and many were the devices suggested for reducing the size and weight of this very necessary appurtenance. The accompanying engraving (Fig. 1) shows an old-time operator in the field, with a tent built after a plan suggested by Mr. John Carbutt in an early issue of Wilson's *Philadelphia Photographer*. Mr. Carbutt's idea was that this tent should be fixed on a tripod, but the obvious advantage of being able to move readily from point to point, led to the substitution of the wheelbarrow for the tripod, as an improvement on the original scheme. This arrangement possessed many desirable features. It was sufficiently compact to be readily carried

FIG. 2.

Vernon Royle, Paterson.

THE GREAT UNWASHED.

about, and combined, in small compass, everything requisite for the proper handling of plates. In using this portable dark-room, the operator remained outside, passing his arms in through the two sleeves seen hanging down above the handles of the wheelbarrow. Light was admitted through a sheet of colored glass set in the front, and the development of the plates could be watched through a sheet of yellow glass set in a frame just above the two sleeves. The smaller receptacle, shown on the upper corner of the box, was the main source of water supply when operating at a distance from lakes or streams.

The photographer in the picture looks comfortable enough; but only those who have tried it can fully appreciate what it meant to shove this portable photograph gallery up a rough mountain side, on a hot day, in search of the picturesque, which, through some unkind freak of nature, always seems to be found in the most inaccessible places.

The struggles of the photographer, however, were not alone with inorganic matter; the presence of his fellow-men, in undue numbers, was, frequently, as great a source of annoyance as could well be imagined. At the present time, photography is so well-known and so universally practised, that the average amateur rarely excites anything more than a shudder on the part of those on whose features he has done "justice without mercy;" but it was not so, formerly. Then, the photographer, as a curiosity, ranked second only to the giraffe and the kangaroo, in the eyes of the great unwashed (Fig. 2); and if the scene of his operations chanced to be in the neighborhood of a city he was generally accompanied by a tail of followers, the length which might have excited envy in the breast of a Scottish chief. This, in itself, was sufficiently distracting; but when it is borne in mind that one and all of the onlookers were animated by the sole desire to stand immediately in front of the camera, with legs wide apart and a general expression of smug satisfaction on their speaking countenances, the feelings of the photographer can be better imagined than described. To get rid of this rabble without an appeal to arms was sometimes an operation that would have tasked the diplomacy of a Talleyrand. Many were the subterfuges indulged in to clear the foreground of an overwhelming assortment of J. G. Brown models who were sadly at variance with the scene they hoped to adorn. One favorite game, which generally worked to a charm, was to carefully get the lines of the desired landscape marked out on the top of the tripod, and then, swinging the camera round in another direction, politely invite the multitude to step in front and have their pictures taken. As this request was generally complied with cheerful alacrity, it became a simple matter to get them all nicely grouped in some place entirely out of the line of the intended exposure, and then, swinging the camera quickly back to the spot originally marked, make the exposure before the expectant crowd awoke to the fact that they were being tricked.

While wet-plate photography meant a world of labor that can now be avoided, it must not be supposed that it was without its compensations. The labor involved, alone, gave value to such pictures as were secured, and the comparative newness and mystery of the art added a charm which common, every-day use has done much to destroy. It is certainly a fact, too, that a larger proportion of good pictures were taken then than now. The composition of the picture was more carefully studied and effects of light and shade were more patiently sought for. It was no idle matter to expose a plate uselessly, and a knowledge of the labor expended made the operator careful in the selection of views. It is simple enough, now to take a multi-

plicity of pictures on the chance of some of them being good; but this ease of operation induces, in many amateurs, extreme slovenliness and carelessness in the make-up of the pictures and in the handling of the plates.

While much excellent work is done, the average amateur is not sufficiently painstaking, forgetting that, even if the dry-plate has done away with the necessity for a great deal of hard work, the other elements of picture-taking, the time of exposure, selection of point of view, etc., remain the same and demand as much careful thought as ever.

In saying this it must not be inferred that all of our present photographers are included in one sweeping condemnation. We now have many photographic artists whose work has never been equalled, but the great mass of pictures taken nowadays by the rank and file of amateurs are simply careless snap-shots, made indiscriminately at anything and everything, without any reference to the pictorial value of the subject or proper study of the best conditions under which to operate.

It is obvious that general instructions in regard to the selection and treatment of subjects can be of little value. The artistic arrangement and composition vary in every individual case, and it is only the artistic instinct that can be safely followed in the make-up of the picture. Aside from this, however, there are two elements of the first importance which can be measurably determined if the operator will cultivate habits of intelligent observation and bring a little conscientious study to bear on the subject. These elements are atmospheric conditions and time of exposure. The quantity and direction of the light, the degree of clearness of the atmosphere, and the direction and strength of the wind should all be subjects of careful study before each and every exposure, and the

FIG. 3.

Vernon Royle. Paterson.

POMPTON DAM.

FIG. 4.

Vernon Royle, Paterson.

BY THE RIVERSIDE.

eye should be trained to recognize the true conditions at a glance.

The selection, too, of the best point for the camera, in relation to the direction of the light, is of great consequence. When this has been determined, the time of exposure should be carefully regulated according to the conditions obtaining at the time and the effect desired to be brought out in the picture.

The proper regulation of these matters cannot be learned in a day, and no satisfactory rules can be laid down for the guidance of the operator. Experience and

observation must be depended upon to bring the necessary knowledge, and success or failure in taking pictures depends, in a measure, on properly determining natural conditions.

It would seem that, with the path cleared of most of the mechanical difficulties that were formerly so formidable, photographers should be able to devote more time than ever to the study of photographic conditions; but, unfortunately, the contrary seems to be the case in many instances. It is to be hoped that the good sense and judgment of the few will gradually leaven the whole lump, and that the rising generation will do at least a part of the work done by their heavy-laden predecessors.

The two landscapes illustrating this article are from negatives made by Vernon Royle, Esq., of the firm of John Royle & Sons, Paterson, N. J. They were taken under widely different circumstances, and may fairly be said to represent, severally, the results of study and chance.

The scene represented in the picture called "Pompton Dam" (Fig. 3), is the dam at the outlet of Pompton Lake, one of the picturesque sheets of water so common in Northern New Jersey, and, like all waterfalls, requires special treatment if anything better than a blur of white would be obtained.

To retain the tones in a waterfall the exposure must be approximately instantaneous, and as many cascades are at their best in early spring, when there is a scarcity of actinic light, much patience is necessary in order to take advantage of the best possible combination of conditions. The composition of the picture, too, in subjects of this class, demands unusual care, as *it* is frequently impossible to correctly balance all the parts and at the same time give the central object (the waterfall) proper treatment.

To secure the negative of the picture shown, several trips were necessary, Mr. Royle writes me. The first, in the fall of the year, was at a time when the water was too low. A visit early in the succeeding spring found the reverse the case, the mass of water plunging over the dam being such as to preclude the idea of attempting a picture. After this, by dint of occasional observations as the water subsided, a day was at last found when all the conditions were favorable, and the desired picture was at last secured.

The other picture, "By the Riverside" (Fig. 4), represents no such expenditure of time and pains, being simply a chance shot, taken on returning from a tour through the surrounding country. The scene, writes Mr. Royle, is a bend on the Passaic River, on the outskirts of Paterson. While it is a fair enough example of outdoor work, considering the small amount of labor involved in taking it, it is not to be compared to "Pompton Dam." Several things in this picture might be improved. The light is not of the best, and the figure in the foreground is not especially effective. A distant figure, seen dimly in the distance, along the bank of the river, would be more pleasing to the eye and in greater harmony with the general tone of the picture; but such finished effects are not generally the reward of snap-shots.

Study and painstaking are as vital in photography as they are in everything else, and he who would reap the harvest must first sow the seed. ACTINIC.

OBSERVATIONS.[1]

As it is usual for those who do most of the talking at conventions to tell what they know, or what they think they know, I will, with your forbearance, give you the substance of my observations. In my travels I have called on all kinds and

[1] Speech made by Mr. S. H. Mora at the Northwestern Convention, February 19, 1896.

classes of photographers, from the proprietor of the Palace Studio in the largest cities to the proprietor of the tent in the smallest towns, and my observation is that that the man in the small town often displays the most ingenuity, although he is seldom given credit for it. Owing to the amount of his business being limited, he cannot afford all the latest accessories and appliances, and is consequently obliged to work under difficulties that would appall his city brother. I have, therefore, great respect and admiration for the small-town photographer, who, with a limited capital, a limited business, and frequently limited facilities, often turns out work which approaches surprisingly near, if it does not equal, that of the best.

My second observation is that, inasmuch as the celebrated photographer almost always grows from a small one, there ought to be more celebrated men, and the fact that there are not more is due solely to the photographers themselves. All classes of photographers are great admirers of photographs, especially those of their own make, and it has seemed to me that this admiration has kept many an otherwise excellent workman from becoming famous, and accounts for the fact that there are not more celebrated men. The trouble is that we are like the Pharisee—too ready to give thanks that we are indeed better workmen than other men. This admiration of our own work is natural, but deplorable; the more a man admires that which he creates himself, the better he thinks it is, until finally his vision becomes so distorted that he can see only the good points in his work and cannot see the faults, and it never occurs to him that some other fellow may be turning out work that is better than his; in fact, he would scoff at your making the suggestion. Do you think that the man who allows himself to become satisfied with his work and himself will ever be one of the leaders or will be liable to improve? Would he not be a better workman, and in a way to advance, if, instead of being thankful for the good points in his work, he could see its bad points and say to himself: "I am indeed a miserably poor workman. John Smith poses better than I do; Henry Jones makes better negatives; Arthur Brown is a much finer retoucher, and Harry Williams can double discount me as a printer. Henceforth, I will imitate the points of excellence in their respective pictures, and will not be satisfied until I can produce better work than they."

Don't give up because you cannot produce as good work as some celebrated man of whom you have heard; he crept before he walked, and so must you. Choose for your ideal the work of a man which is but slightly better than your own; when your work is as good as his do not become satisfied, you have only climbed one round of the ladder of success, and there are many more. Look up! There is another ideal just above, take that and climb again, and so continue to climb, always trying to reach the standard of the men on the round just above you. Remember, that while there are many whose standard is lower than your own there are also many whose standard is higher, and that in this age of progress you cannot afford to be satisfied that you are above the men who are below you. If you do, some of them will be sure to move onward, and some day you will wake up to find that while you have been serenely satisfied with your position on the ladder, those who were below you have crept up and passed you, and that you are a back number.

Gentlemen, come off the roof! Leave self-admiration to the Pharisee and get down onto the street with the sinner. Acknowledge to yourself that you have much to learn. Take "To Excel" for

your motto; set your eyes steadily on the goal "Success," and bend every energy to reach it, remembering that when you get there you will be rewarded with a new name, called "Fame," that you will become entitled to wear the crown of glory, called "Success," and that, with these two desirable attributes, you will also become the happy possessor of many beautiful and coveted pictures, framed in silver and gold, of the emblem of liberty—the American eagle.

PHOTOGRAPHIC IMPRESSIONISM.

The Frog Pond.
Among the Redwoods.
Eventide. (By L. V. Kupper.)
Myself. (By H. A. Sully.)

FOR the useful lessons which we believe are to be derived from them, we have grouped together four little pictures recently received from two of our subscribers, which seem to us to possess considerable merit. The title which we have given to these remarks must not, however, mislead our readers. We have no considerable leaning toward impressional photography or views made after the style of the impressionist. But turn rather toward the wonderful impression which photography

makes upon many who take it up, and to illustrating the thought that those who do take it up with earnestness, and with the right spirit, will constantly grow in it and produce admirable results. Two of the pictures below are made by Mr. H. A Sully, of Berkeley, Cal. One of these is entitled "Among the Redwoods on Santa Cruz Mountains," and the second one "Myself—Out On a Tramp Through the Redwoods."

The remarks which Mr. Sully sends with his views we print below entire for the following reasons: First, to show how infectious are the impressions which photography makes upon the one who takes it in the right spirit (how it will grow upon him and make him improve); and, second, how prone he is when he has the right spirit and finds something good, to be stirred with the desire to impart it to others and give them help on their way. We think the lesson is plain.

Mr. Sully writes as follows:

"About eighteen months ago my brother gave me a little quarter plate camera and shipped it to me from England. Prior to that time I knew nothing of photography, but at once began to ask questions and read all I could get hold of. A friend made me acquainted with your invaluable MAGAZINE, and I have procured it every month since. In fact, I look forward with eager anticipation for its arrival each month. In response to an inquiry, you were kind enough to name certain books, which I procured and which have been of great service to me. Among them were Burbank's *Photo-Negative* and Robinson and Abney's *Art of Silver Printing*.

"I now bear testimony to the worth of your MAGAZINE and your advice, and beg to thank you very heartily for the service both have been to me in my amateur endeavors to master the art and technique of photography.

"I soon found my small camera (single lens) did not satisfy (en mangeant l'appeti revient), so got a 5x7, and with a Dallmeyer R. R. and Gray wide-angle Periscope, am now succeeding in making an occasional picture. I enclose a few samples of work which (while not offered as being anything remarkable) I trust will show that I am growing.

At various old book stores I have gathered up a number of your *Mosaics*, and treasure them very highly. Among them is *Mosaics* for 1869, and, as more than a quarter of a century has elapsed since its publication, it won't do any harm to repeat a valuable hint I find therein. Although in these days of dry plates the necessity for clean ing glass is not so frequent as under the old wet-plate regime, yet there are times when even the amateur has to use glass, and finds it difficult to get it clean without the use of much elbow grease and profanity. The article I refer to is by M. Carey Lea, and shows how easy it is to clean glass plates, and even old dirty glass bottles, by using a solution of bichromate of potash and sulphuric acid, say water 10 parts, saturated solution bichromate potash 3 or 4 parts, and sulphuric acid 1 to 1½ parts. Let glasses lie in this mixture for a day (or, better, two or three), then when taken out, and *before wiping*, hold each one separately under a faucet, and let the water flow for half a minute on one side, then on the other.

"The cleansing properties of this preparation are remarkable. If you will accept this offer in the spirit in which I offer it, I shall feel that in getting much good from many quarters I am giving a little back in return.

"Yours very truly,

"H. A. SULLY."

The other two views were made by Mr. L. V. Kupper, one of our old subscribers, whose work is always full of merit. He is possessed of an enviable artistic sense, and the ability to choose the best, sometimes

verging a little upon the impressionistic, as is evinced by his "Eventide" view. Both of his pictures are fine examples of careful management of light and shade and technique, to say nothing of their admirable choice and composition. They supply two useful studies, as well as beautiful ones, to the earnest workers.

PHOTOGRAPHS FROM THE MISSIONARIES.

A CURIOUS and interesting picture is supplied with this of ten views engraved from negatives made by some of our subscribers who are missionaries in foreign lands. Among them are (5 and 6) some Chinese river views which came from Rev. C. A. Killie, Shanghai. Of the series, ing the name of the subject; the lens, stop, and plate used; time of exposure, developer, paper, and toning solution employed; and remarks as to the subject. One of the pictures (No. 2) includes the chief, an old man, sewing. This, Mr. Fay says, "is the work of the men in this mission

PHOTOGRAPHED BY MISSIONARIES.

1 "Tepoia" Travel in S. Africa. 2. Native Group, S. Africa. 3. New Zealand Family.
4. Chinese Fishing Boats. 5. Chinese Bridge. 6. New Zealand Home.
7. City Gate, Sidon. 8. Syrian Guides. 9. Grinding Corn. 10. Sidon.

Numbers 3 and 6 are New Zealand scenes by Rev. —— ——. Numbers 1 and 2 are the work of Rev. W. E. Fay, a missionary in South Africa. Mr. Fay favors us with quite a number of most interesting views, examples of his work. They are of the people among whom he labors. We have made a choice of two for engraving. Each view sent is accompanied by a slip giv- field," showing that the "new woman" asserted herself there long ago. The No. 1 view shows the method of travelling in that country. It is called "Tepoia." In the cornfield, in the distance, is one of the native houses; these are usually located in the centre of the field. The white lady is the wife of the English missionary, Rev. Mr. Bird, who stands at her head. A

Voightlander lens was used, isochromatic plates, and Carbutt's "J. C.," and Eikocum-hydro developers.

The New Zealand pictures reached us through one of our agents there, and are made by a missionary whose name we do not have. The other series is of views in Palestine, made by Miss Alfreda Post, daughter of Rev. George E. Post, M.D., of the Beyrout Mission, Syria. Two of these are of natives of the region of Mount Lebanon.

As the names are underneath the views, we have simply to place these interesting examples of foreign work before our readers, believing they will prove interesting.

PHOTOGRAPHY IN GOVERNMENT SERVICE.

FIG. 1.

M. D. Schoeppel. Photo.

U. S. STEAMER "THETIS" WITH SURVEY BOAT IN TOW.

IT is well known that to almost every department of the service of the United States Government a photographic establishment is attached for special work, and that by some of these many photographers are engaged. The Engineer Corps of the U. S. Army at the present time provides employment for many able disciples of the camera. One of these is Mr. M. D. Schoeppel, who is attached to the working staff of the U. S. office boat "Margaret," engaged in the service of the Gasconade Division of the Commission for the Improvement of the Missouri River. A splendid series of instantaneous views, taken in this service by Mr. Schoeppel during the season of 1895, and recently sent us by him, so interested us and so attracted us by their excellence that we asked permission to engrave them and present them to our readers, with some descriptive notes, to illustrate one of the services rendered the Government by our art. In this plan we had the generous cooperation of Mr. Schoeppel. Our request was forwarded to Division Engineer Lieut.-Col. Stickney, Corps of Engineers, U. S.

Army, and President of the Missouri River Commission, St. Louis, by Division Engineer S. Waters Fox. Permission was generously granted. More than this, Engineer Fox furnished us with the interesting notes concerning his work that are added below. These contributions will make a bright spot in our current landscape number, and we are sure they will prove of value and interest to our readers. We have made such selections from the many views sent as will in our judgment best illustrate the work of the Commission and show forth the talent of the able photographer.

Mr. Fox writes as follows:

Views pertaining to the improvement of the Gasconade Division of the Missouri River by the Missouri River Commission.

No. 1. U. S. Steamer "Thetis," with survey quarter-boat in tow.

No. 2. U. S. Steamer "Sabrina" under full headway.

Both of these little steamers are provided with compound oscillating engines of 76 and 96 horse-power respectively. The former has a wooden hull with a draft of 27 inches; the hull of the latter is steel and draws 3 feet.

Nos. 3, 4, and 5 illustrate the method of constructing revetment for the protection of the bank of the river against erosion. The bank to be protected is first graded to a slope averaging 1 on 3 by means of a powerful jet of water, as shown in No. 3.

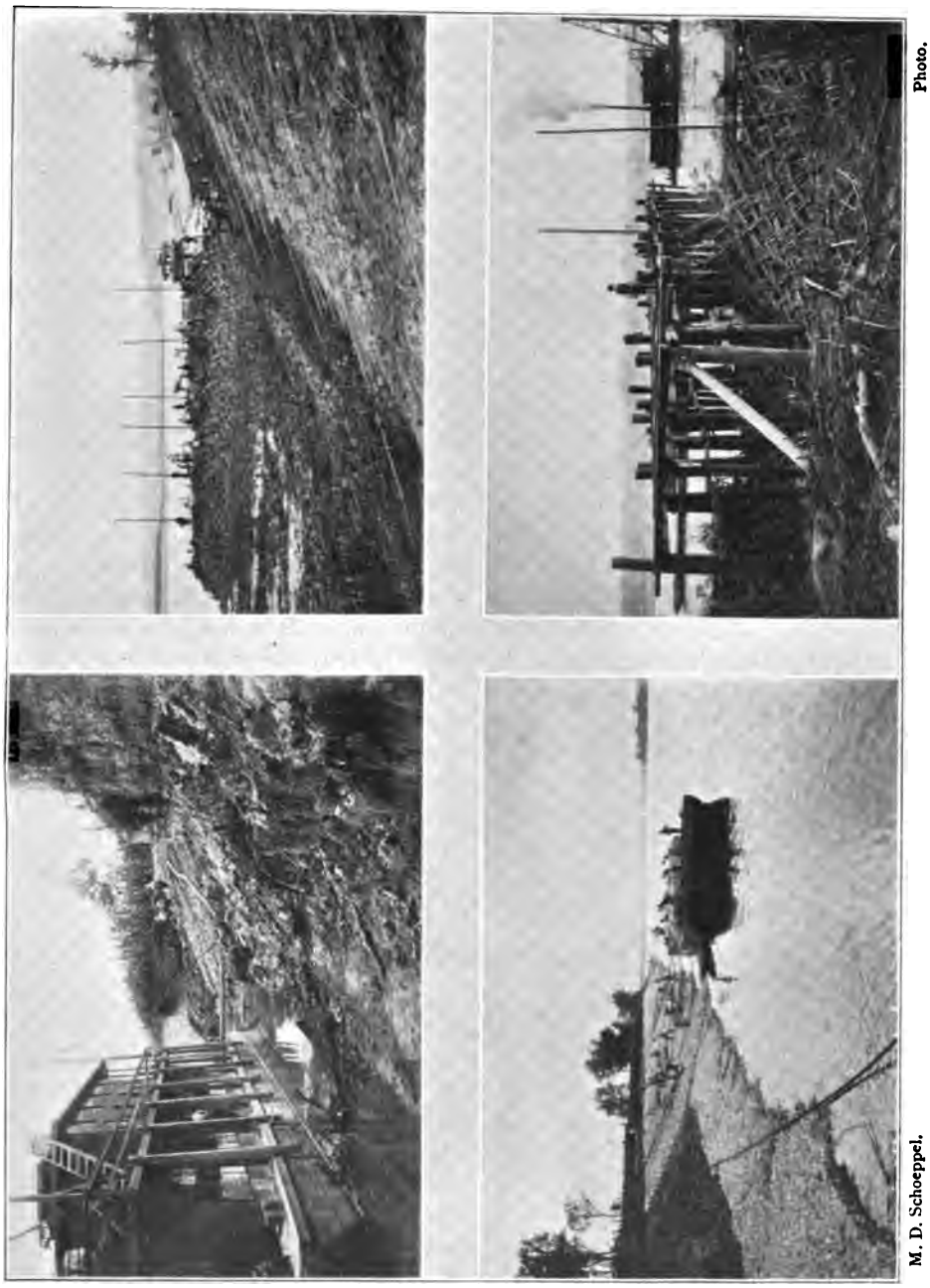
FIG. 2.

M. D. Schoeppel. Photo.

U. S. STEAMER "SABRINA" UNDER FULL HEADWAY.

The jet is supplied in this case by a compound duplex Knowles pump 12″x 22″x 10″x 16″, under a pressure at the pump of from 90 to 115 pounds per square inch, and is conveyed through 4-inch rubber hose from the pump to the play pipe; the latter, which is about 4 feet long, is reduced to a nozzle orifice of from 1 to 1½ inches. The play pipe is fitted to a wooden lever and so supported that the nozzleman can with ease direct the stream to any desired point. Under average conditions

100 linear feet of bank, containing 1000 cubic yards of earth, will be graded off into ruts or gullies, and at an average cost of two cents per cubic yard.



FIGS. 3, 4, 5, and 6. PHOTOGRAPHS ILLUSTRATING THE CONSTRUCTION OF REVETMENT AND PILE DYKE ON MISSOURI RIVER. Photo. M. D. Schoeppel.

the river in eight hours, leaving the surface of the slope smooth, true, and free from

Then the mattress, woven of willow brush and reinforced with steel cables, is

made, as shown in No. 4. The inner edge of the mattress rests on the graded slope above the tailus formed by grading, and extends out on the water a width of from 60 to 125 feet.

A system of steel cables, which is introduced transversely into the mattress as it is woven, extends up the graded slope and is made fast to stone "dead-men" planted 8 or 10 feet back of the top of the slope. These serve to hold the mattress in position after it has been sunk into place. Other cables running longitudinally with the mattress are also introduced as the weaving progresses, and serve to strengthen it against rupture while sinking or in subsequent adjustment to scour. The mattress is sunk in close contact with the bottom, which is or may be quite uneven or irregular, by means of rip-rap or broken stone, as shown in No. 5. The construction of the mattress is such that it readily conforms to the bottom, or to change that may subsequently occur through scour. It interposes between the current of the river and the yielding material of the banks and bottom (which are largely composed of sand), a shield which prevents further erosion. The upper bank is covered with stone to a depth of 8 to 12 inches.

No. 6 shows a pile dyke in process of construction. It is by means of such dykes that the rectification of the river is effected. The piles are driven by Nasmyth steam hammers or sunk with jets of water in rows of 2, 3, or 4, according to the location of the dyke. The piles are protected against scour by a foot-mattress or sill woven as the mattress for revetment work is, and sunk in contact with the bottom with rip-rap. They are then strongly braced and finally provided with a screen or curtain. The latter may be a wire netting of No. 10 galvanized steel wire and a mesh area of from 1 to 2 square feet, or a grating of poles set vertically and spaced from 1 to 10 inches apart. These screens retard the flow through the dyke, and thereby cause a tendency to deposit both above the dyke and below of matter in suspension. In this manner channelways are filled up, bars raised, and flow diverted elsewhere. Although the stream is comparatively clear in the winter or at very low stages, it is never entirely free from sediment, and in times of flood carries enormous quantities of silt, sand, and vegetable matter, and the results obtained are often astounding. In less than a month after the completion of the dyke shown, a flood due to heavy local rains caused an accretion below the dyke, covering fifty-five acres in extent.

THE RÖNTGEN PROCESS IN MEDICINE.

BY DR. HUGO ERICHSEN.

THE medical importance of Prof. Röntgen's discovery of photographing through certain solids by means of so-called cathode rays should not be underestimated. Aside from its usefulness in the detection and location of bullets, it is destined to be of utility in various other respects, both in medicine and in surgery. All foreign objects in the human body, which are impervious, so to speak, to this wonderful light, may be discovered by means of it. In doubtful cases it will decide the diagnosis. In many cases it will no longer be necessary to have recourse to an exploratory operation in order to determine the nature of the disease. The Röntgen process will show plainly whether calculi or stones exist in the gall or urinary bladder, and in one case obviate a dangerous surgical operation and in the other a painful examination. Fractures will be readily differen-

tiated from dislocations, and the orthopedic surgeon will be enabled to ascertain, beyond the slightest doubt, the exact

By J. W. Gifford. From the *Photogram*.

Shadowgram made without Crooke's tubes, metal disks, through cardboard box. Exposure 10 minutes.

nature of the deformity which he is about to correct. It is patent that the information thus obtained will be of the greatest

By C. Swinton. From the *Photogram*.

Living hand through black vulcanized fibre. Exposure 4 minutes.

importance and use in the performance of an operation. To revert to fractures: in case of fracture of the skull, the photograph would show the extent or the injury, also whether there is a depression of the bone that would necessitate the application of a trephine. The detection of osseous tumors would likewise be greatly facilitated. I remember a case of osteosarcoma of the pelvis, in which half a

By C. Swinton. From the *Photogram*.

Living frog through sheet of aluminium. Exposure 20 minutes.

dozen reputable and prominent physicians were unable to diagnose a bony cancer in the pelvis, until a surgeon, who was especially skilled in the diagnosis of tumors, was called in and determined the nature of the trouble. A post-mortem examination confirmed his diagnosis. A photograph taken with the aid of cathode rays would have cleared away the cobwebs in a moment and removed all doubt. I believe the existence of necrosis, and the extent to which the malady has progressed, will be established by Professor Röntgen's photographic method. Medical jurispru-

dence will also be benefited by the new discovery. Photographs taken by means of the process will be used in evidence in

By J. W. Gifford. From the *Photogram*.

Metal disks through two sheets of aluminium. Aluminium between disks and plates. Exposure 10 minutes.

malpractice and criminal cases, and may be the means of clearing many an innocent practitioner from a charge that may not only cost him dear but ruin his practice as well, and of sending many a guilty wretch to the gallows or prison who would otherwise escape punishment. A jury is more easily convinced by a photograph than by fine language.

As the process or method is still in its infancy, and will undoubtedly be much improved before the various experimenters all over the world, who are now giving it their attention, get through with it, its scope of usefulness in the healing art will probably be increased. Some day we may hope to photograph the various organs of the human body in health and disease, and by comparison be able to diagnose what ails them. That will be a happy day for patient and physician alike, for a correct diagnosis, it is said, is half a cure. Some may smile at my enthusiasm, and exclaim that it is impossible. But who would have considered it possible but twenty-five years ago that a machine could be invented that would talk, that men would converse with each other though miles apart, and that the news of Europe would be flashed under the ocean to our continent? Who dares to define the limits of modern invention?

PHOTOGRAPHY EN ROUTE.

SINCE photography began it has become the custom of the itinerant camera worker to offer his services at summer resorts and other places where the traveller is liable to appear in numbers and apt to desire pictures of himself and party in connection with some work of Nature. For example, at Niagara Falls we know how, for years, the tourist has been beset by the photographer, with samples of his work in his hand, soliciting business. We find that this fashion follows all over the world. We have recently received a very interesting photograph of a group of travellers, taken near the Sphinx and Pyramids in Egypt. The Arab exclaims continually "Allah is great;" and since one of the greatest creations of Allah is *Light*, and the greatest work of light is the photograph, we have thought well to engrave this picture taken *en route*. It was kindly sent to us by our friend while he was in Egypt. He appears seated upon a camel, and is accompanied by his Arab attendants. The sheik or chief one of these is seated upon another camel. The American is W. D. Himmelreich, Esq., a noted banker and manufacturer residing in Lewisburg, Pa. Mr. Himmelreich, accompanied by our mutual friend, Rev. J. B. Grier, D.D., of Elkland, Pa., while visiting the Nile country generously devoted a goodly part of his precious

S. L. Stein. *Milwaukee, Wis.*

SIXTEEN WELL-SPRINGS OF PLEASURE.

time to sending accounts of his travels home to the *Lewisburg News*. From one of these letters, dated at the Pyramids, we quote the following:

"My donkey's name was 'Dandy Jim,' Dr. Grier's donkey was 'Telegraph.' I like the donkey. It is great fun. We reached the boat about 4 P.M., having travelled about ten miles. The return trip on the steamer down the Nile to Cairo was delightful. The next day, Sunday, we observed as a day of rest, mainly, as I must confess, because we were so tired and sore after our donkey ride on Saturday. In regard to the weather. Think of a bright, warm, cloudless, beautiful day in June. That is the kind of weather we have here right along. There are no clouds, no rains, and no umbrellas. But as soon as the sun goes down it is cool enough for a light overcoat. Monday morning, with Mr. and Mrs. Tebbetts, of Lynn, Mass. (and it is not possible to fall in with more charming acquaintances), we drove out to the Pyramids. I did not hesitate. I wished afterward, when I realized how tired and sore I was, that I had hesitated. I went up, clear to the top of the great Pyramid of Cheops, four hundred and seventy-four feet high, while my friends below watched me with their field glasses and had lots of fun, no doubt, at my expense. I was hurried along in the hands of two Arabs with another one behind to boost me. I am glad I went up, but I wouldn't do it again for a thousand piasters. When I came down, aching all over, we three gentlemen mounted our camels for a tour around the Pyramids to the Sphinx and the temple. Those enormous blocks of stone and alabaster in the temple are wonderfully large. I will not give the dimensions, for fear you will think I am not telling the truth. How did those ancients manage to transport them from the quarries so far away, and how did they manage to set them up? is a question, though not my own, for it has been asked thousands of times. But what a relief it was at last to get off that big brute of a camel and sit down to lunch in the Mena House at the foot of the Great Pyramid. I would rather ride fifty miles on a donkey than one mile on a camel. At first sight the Pyramids, like Niagara Falls, are disappointing. But the longer you look at them the more they grow upon you. They are simply stupendous, and have a right to be classed among the seven wonders of the world. That visit to them was glory enough for one day. I attempt no description of the Pyramids. I must leave all that to my photographs."

Ah! what would the traveller do were there no photographs? How much more he will glow when he can exhibit likenesses of what he has seen and felt in natural colors?

MR. GRAY'S THREE-COLOR VIEW.

MY DEAR DR. WILSON:

Many thanks for the copy of the MAGAZINE which came this morning containing the beautiful three-color print from Mr. Gray's negatives, "From the Heights of Lugano."

This picture is by far the best I have ever seen in this line, and comes nearer nature than many of Mr. Gray's lantern projections which I have seen. Several of those, however, were wonderful, the effects of atmosphere and space in the mountain views being especially so. The position you take in regard to the so-called "color-photography" is eminently commendable. All the known processes produce their results through the medium of printers' inks, which are only paints mechani-

cally applied, or by projection through colored glass. The public should not be misled in regard to the nature of the processes, as newspaper writers are fond of doing. In every case the finished picture requires translation from the negatives to the paper or canvas through the trained color sense of the print or projector. The result thus embodies really much more skill than would be the case with actual color-photography in the same sense as light and shade photography, which would mean the making of a negative which would print by the action of light upon some sensitive surface the colors of the original subject. This work certainly has a great future before it. Perhaps not so far in the artistic line as might at first be hoped. But, scientifically, it must prove of enormous value. For example: In the photographing of botanical and anatomical preparations and of microscopic objects a great amount of painful and inexact work could be directly supplanted and much better performed by the three-color negatives (or possibly seven-color plates might be required for absolute fidelity), and the inks or colored glasses required for printing or lantern projection could be selected by experiment while the subject was still fresh and unfaded. In the art line reproductions of paintings will probably be the chief field of service. When it comes to photographing nature in this way, all the limitations of photography on the art side come in, with several new ones. The highest possible result will bear the same relation to painting that music mechanically produced by a fine "orchestrion" does to that poured out by a Seidl's orchestra. The chief lack is in the personal element. However, there are many subjects, and the view forming the text of this letter is one of them, which afford excellent opportunity for really pleasing color-print studies embodying more or less of real art feeling. With the picture before me I will write what it suggests. This was evidently taken with the intention of displaying the technical excellence of the process from the photographic standpoint, clear definition and detail being among the things sought. From the art standpoint this is too well done. If possible to have taken the mountains in middle distance in shadow more simplicity and breath would have resulted. While the atmospheric tones are really wonderful considering the means by which they are produced, it strikes me that a different point of view might have better distributed the colors, which are slightly out of balance by reason of the red tones being all on one side and the green on the other. Covering two inches of the right end of the picture leaves a better balanced color scheme. Could the red-roofed buildings have been removed just their width to the right a perfect color-balance would have resulted. The harmony of color, however, is very fine, just a trifle black in spots, but not offensively so. Under the glass this picture is especially interesting. The cool reflected lights on the vine-leaves come out well. I may be in error, but it looks as though the reflections by the distant shore line on the left were made by hand-work on the blue plate. This idea may yield a suggestion of value. One of the least artistic things about the picture is the edginess of the mountain and trees. The eye catches the silhouette before it feels the form, and the foreground and each mountain mass seem somewhat cut out and to lack rotundity. The color is atmospheric, but the edge is not. A little hand-work on the engraved plates would probably overcome this, and, more than anything else, add to the artistic effect. I have one further suggestion. Subjects for this work should be chosen for simplicity, should be taken with a wide stop to give softness of definition, and should for the best work

possible be large in size and printed on paper, to be afterward embossed with a texture like water-color paper.

Yours, sincerely,

A. G. MARSHALL,

69 South Elliott Place, Brooklyn, N.Y.

March 7, 1896.

DR. WILSON.

MY DEAR DOCTOR: I am charmed with the frontispiece to your March MAGAZINE. It is the only print of the kind I have seen in which the delicacy of the photograph was not lost in the coloring. I do not like the "Living Statue" in your October number. The photographic effect *is gone*—but this print from Mr. Gray's color negatives is simply charming. I hope we shall see more of Mr. Gray's results.

With best wishes I remain yours truly,

GEORGE B. SPERRY.

TOLEDO, OHIO, March 9, 1896.

OUR PICTURES.

IT seems to us that the readers of our MAGAZINE ought to design a "campaign button" for the Postmaster-General to requite him for his decision that "photographs pasted on cards" must not go in our MAGAZINE; for, as one of the outgrowths of his decision, we are enabled to present a more beautiful variety of pictures in lieu of the proscribed old-fashioned ones.

Mr. Gray's picture last month, of course, overpowered all who understood it and its charming qualities. Now, we lead our landscape number by another fine study in outdoor photography from a negative by Mr. J. Wesley Allison, Philadelphia. This is Mr. Allison's "October." His work is further shown and alluded to in "Photography and Thought" on page 26 of our January issue, 1896. This excellent phototype was also printed in Philadelphia by the F. Gutekunst Co., Ninth and Girard Avenue.

Harmonizing nicely with the *motif* of our outdoor issue, and adding interest thereto, the engraving from the photograph of "The Return from the Pyramids," sent us by Mr. Himmelreich, and alluded to on page 176, taken by a native Egyptian photographer, is used as an inset. It was printed by the Gravure process of the Chicago Photo-engraving Co., Mr. Carl Nemethy, manager. It is a capital reproduction of the original 8 x 10 photograph.

"Weighing the Baby," from a negative made by Mr. F. M. Somers, Memphis, Tenn., will conciliate the workers under the skylight. It was printed at the Nepera Chemical Co.'s factory, Nepera Park, New York. Particulars concerning it are supplied on page 183 in another article. Mr. Somers has here treated a very familiar subject in a very artistic manner, and produced a really charming "living picture," for which he is entitled to much praise. We acknowledge our indebtedness to the relatives of the baby for permission to use the picture. We hereby banter our readers to try the same subject and see who can excel it. We shall be glad to serve as judge, jury, and prize awarder.

We also present a sweet little picture entitled "Resurrection." It is from a negative made by Mr. Louis F. Jansen, Buffalo, N. Y., and very appropriately serves as an "Easter" offering. It does much credit to the generous artist in every way.

Mr. S. L. Stein, from his Milwaukee studio, sent us recently forty speaking likenesses of little ones. These created considerable commotion in our study for some time, but finally the "best sixteen"

were separated from the rest, sent to the Albany Engraving Co. to half-tone, printed for our MAGAZINE, and will be found inserted in a good place to complete a quintette of most valuable and interesting studies—representing four different processes of reproduction.

We do not think any photographic magazine in the world begins to serve such a pictorial *menu* for its patrons as we do.

A FEW REMARKS TO DR. BAEKELAND.

BY D. BACHRACH.

THE learned Doctor in the last issue of this MAGAZINE, in an article characterized by evident fairness and desire to give the truth as he sees it, acknowledges that there are five different kinds of emulsion prints that are open to my charges of lack of permanence. Unfortunately almost all the prints that are made on these papers are open to one or the other charges which he makes against them. But he asks us to believe that the particular paper in which he is interested is not open to objection, *i. e.*, the "Nepera" papers, made with emulsion composed partly of hardened gelatine, presumably hardened by one or the other of the various acid sulphates or other acid astringents, but rich in silver, and that herein we have conditions superior to those prevailing in the case of albumen prints, *which we all know are rich in silver and gold*, as we put them in ourselves, and are not dependent on the words of the manufacturer. We are asked to believe, therefore, that all other conditions being the same, that a hardened gelatine film is a better protection and less liable to change and decomposition than a hardened albumen film.

From my limited knowledge of chemistry, as well as from actual experience, particularly in the line of photo-mechanical and carbon processes practised in summer seasons, I desire to draw a very large ? on that claim. I fully agree with him that it ought to be settled once for all by practical tests. But, pray, how, except by actual time and a large number of prints by both methods, can this be tested? My rule for a test of permanence in a rapid manner has been to try how well the finished prints stand the test of the ordinary reagents used in our profession. When I see a batch of "Nepera" prints (as I did last summer), which were accidentally put in our regular hypo-fixing bath for albumen prints (six ounces to the quart of water), have all the half-tones bleached out of them in ten minutes (collodion prints would almost disappear in that time), while albumen prints left in twenty minutes were not hurt at all, I naturally came to the conclusion that the latter have the most backbone. When the same result follows in a test with weak alkalies, cyanide of potassium solution, weak acids and hot water (which the learned Doctor will find on trial to all point the same way), he must pardon my skepticism, except after an actual test of years.

I would be glad, more than glad, if his emulsion paper would prove even as *reliable* as albumen. I admit the latter is not my ideal, but I never knew how good it was until we had used the emulsion papers a couple of years. The latter do not get *yellow* like many albumen prints, but they *go* badly, yet seem to stand exposure to light and air better than being put away in albums or protected otherwise. At any rate we have more actually *faded* prints in evidence in the last four years than in all the period of albumen printing. Daily, in making copies, I am led to remark on the well-preserved appear-

ance of prints with the old revenue stamps on their back, on single albumenized paper, and the very few that are actually faded. Why not return to this evidently reliable method now that high gloss is being given a setback? The other advantages, saving of labor in washing, etc., spotting out, coloring, and other things so largely in favor of albumen, are not even mentioned here. I can assure him that since last summer, when we finally "bounced" the emulsion papers (the writer got mad the very day the Nepera paper was tested finally, after having a whole batch of another emulsion paper spoiled by "softening," the air being very *blue* for awhile in that vicinity), our business has increased, and yet we are getting along with one less assistant printer and one less spotter and far less waste. I will admit that we have had periods when albumen prints looked sick and measley, but that was only temporary, and we would have welcomed some reliable print-out paper that we could trust.

I cannot close this article, however, without saying that I really believe that the "Velox" paper, after trying it, if developed with the oxalate developer, which reduces the silver to a condition nearer the metallic state than any organic developer, will give far more permanent and reliable prints than any print-out paper, and there is less liability to failure than with bromide paper. We are strongly inclined to use it, especially the matt paper, for all large work and for emergency rapid printing. Our experience has not yet been sufficient to be fully posted as to its advantages, but, *à priori*, developed prints are more permanent than those printed-out on the emulsion papers. But we consider it the best policy for all photographers to increase the use of that undoubtedly artistic and permanent product, *platinotype*, pure and simple, as promising to finally lead us out of the wilderness of evanescence and cheapness. Of the business end of the question I will treat in a further paper.

THE CONVENTION OF THE OHIO ASSOCIATION.

THE Photographers' Association of Ohio since its inception a few years ago has accomplished much practical good, not only for its own members, but for photography in America. One of its chief aims, as an Association has been to elevate the standard of professional work, and by its annual exhibitions it proves that this desirable end is being attained. Public bodies, as well as individuals, have their pet ideas, and the pet notion of the Ohio Association is its photographic *Salon*, an exhibition to which only selected work is allowed entrance, to which selected work there is attached an honor beyond the actual award the work may gain as a prize winner. This feature is likely to be adopted by the National Association, and must surely become universal. We have frequently advised our Ohio photographers to support their Association. If further counsel is needed it is found in the letter from Mr. George B. Sperry, the energetic secretary of the Association, which we give here:

"The sixth annual convention of the Photographic Association of Ohio will be held at the City Hall, Columbus, July 14, 15, and 16, 1896. By a unanimous vote the Executive Committee decided to give medals for prizes instead of the donated articles, as customary heretofore. Recognizing the fact that the interest in the Association and its attendance is not confined to the State, they added to the prize list a special class open to all photog-

raphers outside of Ohio. The Salon Committee, enthused by the success of their initial venture, and fully aware of its short comings, are preparing for the finest exhibition of pictorial photography that has ever been given in this country. Ohio has within her borders more of the 'leading lights' than any other State in the Union. Her ability to conduct conventions has been well proven. She has lost none of her prestige. The coming 'meet' will firmly establish her claim as the leader in all things photographic. An artistic souvenir, containing several reproductions of salon pictures, names of all members in good standing, prize list, and much other useful information will shortly be issued. A copy will be sent to every member of the Association. To others on application.

"GEO. B. SPERRY,
"Secretary.

"TOLEDO, O., March 12, 1896."

RETAINED SILVER.

BY DR. LEO BAEKELAND.

AN article by Dr. John Nicol, in the last number of this MAGAZINE, prompts me to write once more on an ever-recurring subject.

I cannot refrain from asserting what appears to be a parodox: "A combined bath is only safe when it does not work at all." Let me explain. A plain hypo-gold solution will not tone if neutral or alkaline. When I say "will not tone," I mean that it will not change the color of silver prints except to an undesirable reddish-brown; and even this it takes hours to obtain. If, on the contrary, the bath be made acid, the gold may just as well be left out; for toning by sulphurization will be obtained whether gold be present or not. But even such a bath will not work well unless lead salts be present; these lead salts act as a sulphur-carrier, so that pretty sulphur tones are obtained in a short time by their agency. It is bad enough that the printing-out paper should be toned by sulphurization, but worse still is the added evil of having the lead salts fasten themselves in the film, whence no amount of washing will remove them entirely. The practical result is that the print is subject to two dangers which threaten its permanency. First, the fading sulphur tones; second, the presence of lead evenly distributed throughout the film. The lead salts are white or colorless at first, but in a short time they begin to darken as the sulphuretted hydrogen of the air acts on them.

The net result is a steadily progressing discoloration in the whites of the image.

Dr. Nicol tries to remove this danger by substituting silver for lead. Aware of the fact that plain hypo-gold is not a practical toning agent, he proposes to add a certain amount of silver salt to the hypo-gold—either directly or by letting the silver accumulate in it from the prints which pass through the bath. The addition of enough silver salt undoubtedly hastens and facilitates the process of toning, although not to such a degree as lead. But the results of direct experiments made by me warrant the positive statement that the presence of a certain proportion of silver in a combined bath is just as detrimental as lead, because it is fully as impossible to remove the last traces of silver by washing as it is to remove lead. Careful and repeated tests have convinced me that as soon as a certain proportion of silver salts accumulates in a hypo-solution, any prints which may thereafter go through such a hypo-solution will absorb in their film a certain amount of what I call "retained silver," which it is impossible to remove even by

two days' continuous washing. My experiments were made with slightly acid hypo-solutions and I have not yet had the opportunity to repeat them with neutral or alkaline solutions; but as soon as I shall have completed the series of experiments in this line which I have undertaken I shall publish a detailed account of them. From this time on, however, I can assert that a hypo-solution containing about ten grains of silver for every ounce of solid hypo will act injuriously in the way described above. A thorough washing during two days was powerless to remove the free silver out of the film, and no more success was met with when subsequent fixing in fresh hypo was tried. Apparently the hypo-silver (let me give this unknown product an empiric name until a better one be found) combines with the film of the print in a similar way as a mordant in the dyeing process acts. This peculiar combination refuses to dissolve either in fresh hypo or in water.

In order to avoid misunderstanding I wish to state that by the term "retained silver" which I have used, I mean to designate any silver salt which is uniformly distributed over the whole film, in the whites as well as in the shadows. This "retained silver" is entirely independent and distinct from the precipitated or darkened silver image.

Any retained silver remaining in a silver print can easily be detected after the print is dry by touching the surface of the film with a drop of ammonium sulphide on a portion showing the whites of the image. If any free silver is present, darkening will result wherever the chemical has touched the surface.

This darkening gives you a hint concerning the future changes of the print, because the same effect is likely to occur over the entire surface of prints so toned, when they have been exposed for a sufficiently long time to the steady action of the sulphur ever present in the air.

In my experiments on this subject I have always used as a conclusive test for retained silver the ammonium sulphide test as described above, but I have found it also very useful to avail myself of the following particular property of retained silver of having an intensely particular sweet taste, which becomes exceedingly disagreeable when large quantities are present. It is sufficient to apply the tongue to the suspected print in order to detect by its sweet taste any retained silver which may be present. Even the smallest quantity may be detected in this way. Attention has often been called to the imperfect elimination of hypo-soda from prints. I am confident that far too little attention has been paid to the danger of retained silver on account of the accumulation of this metal in hypo-solutions. As a practical conclusion of of what I have said above I would say:

1. Beware of the combined bath if you care for permanency.

2. In fixing, use fresh and abundant hypo-baths and do not let any silver accumulate in them.

March, 1896.
Laboratory of the Nepera Chemical Co.

WEIGHING THE BABY.

AMONG medical men the weight of a newborn child is said to furnish more or less reliable probabilities as to its chances of life and well being. From this we suppose sprang the custom of "weighing the baby," an every-day occurrence in American home-life, but a proceeding regarded with superstitious horror by the mothers of some other countries as bringing ill-luck to the little one.

However that may be, our readers everywhere will agree that Mr. F. M. Somers,

of Memphis, Tenn., the maker of the picture presented in this number of the MAGAZINE, has given us an excellent portrayal of a difficult subject. Perhaps the chief charm of the picture is its naturalness, a point which those who attempt story-telling pictures should ever bear in mind. To this end the arranging of subjects and accessories must be carefully managed, and the important detail of expression should not be overlooked. From the pictorial, as well as the technical point of view, "Weighing the Baby" sustains the high reputation which Mr. Somers has won by his excellent work in the past, and it will afford entertainment to all baby-lovers.

A further interesting point about this picture concerns the making of the prints. These are made upon a new kind of *Velox* paper, known as *Carbon-Velox*, manufactured by the Nepera Chemical Company, Nepera Park, N. Y., who also made the prints required for our use.

In printing the edition ordered, we are informed that both the arc electric light and the Welsbach incandescent gaslight were used for exposure. Metol-quinol was the developer, development being effected by means of a brush instead of by immersion. By this method development is almost instantaneous, and no after-toning is required. The development was made in full gaslight; after which the prints were fixed for five minutes in hypo-alum (3 ounces of hypo, 1 ounce of alum, and 15 ounces of water). These facts show the convenience of manipulation when *Velox* paper is used by the photographer. It is claimed that these prints are as permanent as carbon prints. See article on "Black Tones on Velox Paper" in our last issue.

THE NORTHWESTERN AND INDIANA CONVENTIONS.

THE Convention of the Northwestern Photographers' Association, held at Minneapolis, February 18th to 20th, inclusive, was a remarkable success. The States of Minnesota, Wisconsin, Iowa, and North and South Dakota furnished enthusiastic delegations, the total attendance of photographers numbering 345, of whom over 50 were ladies.

The building secured for the convention was the best obtainable in the city, roomy and well lighted, so that the picture displays could be examined with pleasure and profit. Two floors, each 66 x 145 feet, were devoted to the displays; the dealers occupying the first floor and the photographers the second: a feature commended to the organizers of future conventions as advantageous to all concerned.

The photographers' display comprised sixty-seven exhibits, chiefly printed on American aristo-platino. Taken as a whole, it was a wonderful showing for the capabilities of this paper when intelligently handled. The quality of the work displayed showed a decided advance on the standard of previous conventions, and plainly indicated that the Northwestern photographers are improving in their technique and in the treatment of the subject from an artistic standpoint. The exhibits of J. A. Brush, S. L. Stein, and F. B. Johnson were perhaps the most notable of the collection. Stein's exhibit, splendid in quality throughout, was unique in tone, the pictures being finished in a tone somewhere between olive and sepia. In his treatment of draperies Mr. Stein is unexcelled. The display of F. B. Johnson & Co. contained two beautiful figure-studies, entitled "Medea" and "Night," taken from mythology, which attracted universal admiration. Brush's display was largely made up of portraits of small size in oval gilt frames, after the fashion of the old-style medallion and miniature pictures.

"Weighing the Baby"
F. M. Somers Memphis Tenn

This display was at once suggestive and profitable, the artistic advantages of the oval for portraiture having been long overlooked and neglected.

Owing to a misunderstanding the judging of the exhibits was badly managed, and much dissatisfaction was expressed at the report of the judges. The prize-list has not yet been received.

Addresses were made at the various sessions by Mr. S. H. Mora, whose speech appears on another page; by F. D. Todd, on Business Methods; by W. F. Miller, on X-ray Photography; on Manipulation, by Mr. Edgeworth, of the Cramer Dry Plate Co., and Mr. W. B. Glines, of the Climax Dry Plate Co.; by Mr. Hetherington on Print-out Papers, with a practical demonstration; and at one of the meetings Mr. G. Cramer answered general questions concerning the treatment of gelatine plates, giving much useful information.

At the evening sessions Mr. Todd gave an interesting lantern slide entertainment, and Mr. Hetherington gave a profitable demonstration of the use of Anthony's electric-lighting apparatus for portraiture.

The question of closing galleries on Sunday was discussed with much interest, and finally a petition was framed and adopted for presentation to the Legislature of Minnesota at its next session.

As a practical method of facilitating business on the second day of the convention, the visiting ladies were sent in a body to see a performance of "Charley's Aunt" at the Opera House. The *ruse* proved completely successful.

At the election of officers for the ensuing year, the following were chosen: President, T. W. Severn; Vice-Presidents, J. A. Fuller, M. F. Heinzelman, Geo. W. Fox, J. A. Douglas, G. F. Blackburn, and W. A. Pryor; Secretary, F. H. Lloyd, 207 Third Street, South, Minneapolis; Treasurer, A. H. Opsahl. St. Paul was chosen as the location for the 1897 convention, the date of which will be fixed later.

Among the manufacturers and dealers present were Mr. G. Cramer, Mr. E. O. Zimmermann, Mr. E. F. Zimmermann, Mr. Palmer, and Mr. C. S. Abbott. The American Aristotype Co. was represented by Messrs. Hetherington, Decker, Reed, and Soderwall; the Seed Dry Plate Co. by Messrs. Hodges and Benson; the Cramer Dry Plate Co. by Messrs. Edgeworth and Randle; the Hammer Dry Plate Co. by Mr. Hutchings; the Climax Dry Plate Co. by Mr. W. B. Glines. Mr. S. H. Mora was an active helper and ably represented the interests of his company.

A special feature of the convention was the school of practical photography, conducted by Mr. Hetherington, under the auspices of the American Aristotype Co. It was held after the convention proper had closed, and was attended by over eighty photographers, who remained in the city to avail themselves of its advantages.

The Second Annual Convention of the Indiana Association was held at Indianapolis, March 4th to 6th, inclusive. Over two hundred photographers attended, and the meeting was quite as successful as its predecessor at Minneapolis, when it is remembered that the Indiana Association draws its members from one State only. The convention was opened by the President, Adam Heimberger, with an address. In part he said:

"This State was among the first to organize a State association, and its success has inspired other States to follow, until now every State in the Union has an organization. Co-operation has done much to develop photographic interests, hence I would urge upon every person engaged in the art to sustain both State and National associations. I congratulate the fraternity upon the excellent work repre-

toning purposes, and I know, furthermore, that the gold-bath has frequently to be strengthened. Will Mr. Bachrach tell me what becomes of all this gold?

I would add that I think that the prevailing tendency to manufacture matt printing-out papers may in the end prove a retrograde step as far as permanency is concerned. It is generally known that these matt printing-out papers are coated very thinly and contain rather less silver than the glossy ones.

Mr. Bachrach labors under the common delusion that platinum toning is going to right matters. Unfortunately this is not so. Platinum *per se* is in nowise more permanent than gold. The practical chemical facts are that both metals are equal for permanency, and if there is any difference between them it lies chiefly in the tone they give.

Gold and platinum are not the only or exclusive requisites for permanency of silver prints. Mr. Bachrach himself states that prints on plain paper, containing only half the quantity of gold that albumen prints do, proved most permanent. When he says that such prints (on plain paper) are the most permanent of silver prints, I most emphatically add, "except developed prints." Because I am convinced that any developed dark-tone print on bromide paper or any other developing paper is much more permanent than a print made on any printing-out paper. Mr. Bachrach has undoubtedly done much good by the publication of his excellent articles on the combined bath question, and I regret that I must disagree with him in the stand he has taken against emulsion papers.

March, 1896.
Laboratory of the Nepera Chemical Co.

OLIVE TONES ON LITHIUM ENAMEL PAPER.

KIRKLAND'S LITHIUM PAPER CO., of Denver, Col., has recently sent us an assortment of charming studies of various sizes, printed on matt and glacé papers, but chiefly remarkable for the tone effects, which range through various shades of olive. The pictures closely approach fine carbon prints in richness and depth of shadow, as well as purity in the whites. According to a letter accompanying the specimens sent these tones may be obtained by the use of the following formulæ, which will doubtless be welcomed by the users of Kirkland's Lithium Paper everywhere.

NO. 1, WITH PLATINUM.

Print somewhat deeper than for ordinary tone, and wash through two changes of water, then put through:

Water	64 ounces.
Powdered Alum	10 "

which will harden the film. Allow to remain for a few minutes, then wash again through one or two changes of water, and tone in the following platinum bath till the whites are clear, or till the prints leave a bright red and turn to a darker red in the shadows.

Too long toning in platinum will produce yellow whites.

Platinum Bath.

Chloro-platinate of Potassa.	15 grains.
Tartaric Acid	120 "
Citric Acid	60 "
Water	15 ounces.

For use take 1 ounce to 16 ounces of water.

Then wash through two changes of water and tone in the gold bath made as follows:

Gold Bath.

Water	16 ounces.
Sulpho-cyanide of Ammonium	80 grains.
Chloride of Aluminium.	30 "
Gold	3 "

In this bath it is necessary to tone by transmitted light, *i. e.*, until all warmth is out of shadow.

When prints have reached this stage wash through two changes of water and fix in:

Hypo	6 ounces.
Water	64 "
Powdered Alum . . .	1 ounce.

Allow to fix fifteen or twenty minutes, wash, and finish as usual.

In the gold bath a white scum is liable to appear on the prints, which is no detriment whatever, as it will disappear in the fixing bath.

NO. 2.

Print quite deep, wash through three changes of water, keeping prints well separated, then tone in:

Water	64 ounces.
Chloride of Gold . . .	2 grains.

made quite alkaline with saturated phosphate of soda. This bath should be allowed to stand a few minutes before using. Tone in this bath to a purple, wash through one change of water, and tone in:

Water	16 ounces.
Sulpho-cyanide of Ammonium	80 grains.
Chloride of Aluminium . .	30 "
Gold	3 "

Tone till warmth is out of shadows when viewed by transmitted light. With this bath it is necessary to fix in a plain hypo-bath, without the addition of alum.

Should prints not be sufficiently hard, they can be washed through two changes of water after coming from the hypo, and put through a solution of alum and salt.

Then wash and finish as usual.

WANTED: A HOME FOR JEX BARDWELL.

FELLOW PHOTOGRAPHERS: If it had not been for the careful testimony of Jex Bardwell, every manufacturer, seller, and user of dry-plates; every manufacturer, seller, and user of bromide papers would now be paying royalty upon all such manufactures. It would be a great nuisance to keep legal accounts, to say nothing of the money loss. How good for us all that there was a generous, able, and willing, self-sacrificing Jex Bardwell in 1867 and 1868, when the great "Bromide War" took place, to fight for us all. He should have been given a corner house, endowed with a life pension *then*—but—he wasn't. He was neglected and ignored after the manner of human beings. Several weak attempts have been made since to do him justice, but only a little has been done. Almost everybody seemed so overpowered by a sense of the magnitude of their responsibility and inability to give great sums that poor Jex Bardwell got but little, and that little from a very few. Nearly thirty years have gone by, and our old friend is becoming old and feeble. For about $3000 a comfortable house and lot could be purchased for him in Detroit, and he could manage to live in it.

Let us *give* it to him. The individual parts (we would say bricks, but it is to be a frame house) are to cost *twenty-five cents each.* How many will you pay for? Our good old friends Messrs. Allen Bros., No. 247 Jefferson Ave., Detroit, have volunteered to act as treasurers of the fund. Send all sums you have it in your heart to give, and all you can by personal effort coax from those who may not see this, to these gentlemen and *now.* Let us be prompt and generous. Mr. Bardwell writes us that he has personal faith in the success of this project. He is not a believer in "large subscriptions and few." He says: "The twenty-five cent chances will all be taken and the home is mine!" Don't let us disappoint him.

P. S. and private. Where you have influence with your dealer or amateur friends who are able, work for larger subscriptions too. The cause is more than worthy and just.

Fraternally yours,

EDWARD L. WILSON.

EDITOR'S TABLE.

VISITORS.—Among the visitors to our desk during the past few weeks was Mr. W. H. JACKSON, of Denver. He had returned from the around the world the trip of the Columbian Field Museum party, with which he travelled as photographer. Mr. JACKSON'S account of his travels, which included, the most interesting parts of Europe, Africa, Asia, and Australia, was most interesting. Dr. JOHN NICOL, formerly editor of the *Beacon*, called evidently to show us how much more youthful he grows as the years pass by. He has just arranged to enter photographic journalism again after a brief rest, as the editor of the *American Amateur Photographer*. It was a great pleasure to chat face to face with our genial coworker and share his enthusiam over the growth of our beloved art. Long life to him.

LENSES FOR PHOTOENGRAVERS.—Messrs. M. C. GAGE & SONS, photoengravers, of Battle Creek, Mich., write as follows: "We have been for some time engaged in a series of exhaustive tests of lenses suitable for process work. In competition with two other lenses of leading makers, we have found the GOERZ, Series III., No. 8, lens of 19-inch focal length to be far superior in definition, illumination, flatness of field, and covering power. We also find this lens equally adapted for line work or half-tone engraving, and we have decided to use it in our establishment." The Goerz lenses furnished by Mr. C. P. GOERZ, 52 Union Square, New York, are now used by many prominent engraving firms and photographers, it being generally conceded that they are an advance upon the older types of objective formerly held in high repute.

THE interest awakened by the introduction of new and improved lenses during the past year has been intensified by the appearance of the Zeiss Convertible Anastigmats, announced by the BAUSCH & LOMB OPTICAL CO., of Rochester, N. Y.

These lenses are a further evolution of the Zeiss anastigmat series, and possess more useful qualities than their predecessors. The primary idea is a doublet lens composed of systems of such a high order of correction that each may be used by itself, and when combined give results commensurate with the high order of the separate elements. This hitherto unaccomplished task is made possible in the Convertible Anastigmat by the employment of several new optical glasses, and the combination of four lenses in a single system instead of, as heretofore, limiting the number to two or three. The mountings of the lenses are of uniform size, so that any two single anastigmats may be combined in the lens tube, or, if more than two are desirable, they may be interchanged with equal facility. The fact that three lenses of different power are contained in one mounting simplifies the photographer's outfit and adds to its portability, especially as one shutter is sufficient for all three. For example, if two single lenses of 11½ and 14 inches focus, respectively, are selected for the doublet, their values will be as follows:

The 14-inch lens used alone covers an 8 x 10 plate with aperture *f*/12.5, and subtends an angle of 46½°. The 11½-inch lens when used alone covers a 6½ x 8½ plate with aperture *f*/12.5, subtending an angle of 55½°. Combining the two with the 14-inch lens for the front system, produces a lens of 7 inches focus, covering a 5 x 7½ plate at full aperture *f*/7. The proper stops to be used with any of the lenses are indicated on a revolving ring upon the lens tube, which is engraved with a separate scale for each lens or combination. A slight rotation of the ring brings the scale to the proper position, where it is held by a stop. Regarding the optical qualities of the lenses, the single anastigmats are free from anastigmatism and are, in fact, an application of the principles of correction embodied in the series IV Anastigmatic Doublets. The Convertible Doublets (two single anastigmats) stand alone in covering capacity, flatness of field, depth of focus, and freedom from astigmatism, as might be expected from the high qualities of the single systems composing them.

THE LANCASTER (PA.) CAMERA CLUB held its first annual lantern-slide exhibition a few weeks ago. Some characteristic local scenes were shown, and the work of the club seems to have been productive of good for its members.

MESSRS. ROSS & CO., London, have just issued a series of pocket booklets, fully illustrated, describing *The New Photographic Lenses for 1896* (Convertible Anastigmats), the Ross-Goerz Double Anastigmats, the Ross Telescopes and Microscopes, etc. These little handbooks are full of information concerning the latest advances in photographic objectives. Mr. G. GENNERT, 24 East Thirteenth Street, New York, is the American agent for Messrs. ROSS & CO.'s specialties.

FROM Mr. I. W. TABER, San Francisco, Cal., we have received an example of what he terms a "Bas-relief photograph." It is the discovery of his brother, F. A. TABER. It embodies the principles of photography and sculpture as well. So far as we can judge from appearances, a cast is made of the rounded form of the person, and used to press or bulge out (like a cameo) the figure of the subject. The print is upon matt surface paper, and the coloring is exquisitely done. The effect is exceedingly fine. More knowledge we hope to receive presently, and to acquaint our readers further concerning the method by which this charming picture was produced. The method is patented.

MR. JOHN CARBUTT, full of interesting information about his experiments with the X-rays, gave us the pleasure of a personal call recently. His new Röntgen X-ray plate, specially prepared, has been found of great service in this work.

CELEBRITIES.—The March number of this beautiful magazine completes its second volume, and it is as interesting as ever. It is illustrated with ten actual photographs, and is well worth its price (35 cents) to photographer and picture lover on account of the fine examples of portraiture it offers each month. Among those whose portraits appear in the number under notice are Isabella Irving, Clara T. McChesney, Victor Maurel, Marie Bates, George Bartholomew, Mlle. Baumeister, Richard Croker, Ella Wheeler Wilcox, E. H. Sothern, and the editor of this MAGAZINE. The portrait of the latter is from an excellent negative by B. J. FALK, of this city. *Celebrities* is published by the AUTOMATIC PHOTOGRAPH CO., 25 West Twenty-fourth Street, New York.

PICTURES RECEIVED.—We have received an unusual amount of pleasure during the month from a number of landscapes sent to our table by Mr. W. B. STOVER, of South Bend, Ind. These pictures, comprising pastoral scenes about Mr. STOVER'S home, evince considerable artistic taste in the selection of the point of view and in treatment. We congratulate Mr. STOVER upon his success.

From Mr. A. E. AULTMAN, Trinidad, Col., we have received examples of his portrait work, together with a short article upon a useful subject. The latter will be published in an early issue. We have followed Mr. AULTMAN'S career under the skylight for some years and are glad to see the specimens of his work, which prove that he is working upon right principles. With his article we will publish an example of his skill as a photographer.

Mr. R. B. SMITH, of Cincinnati, sends a print made from a negative taken by X-rays (Röntgen's process). It is a capital example by that process.

SEED'S GILT-EDGE No. 27 PLATE is now sold at the same price as the No. 26 of this popular brand. Some of our recent work has been done with this wonderful plate, and the negatives speak for its fine quality. Mr. GEORGE MURPHY, 57 East Ninth Street, is the Eastern agent for the SEED specialties.

A VERY USEFUL PIECE of studio furniture is the piano accessory manufactured by Mr. C. A. SHINDLER, Box 63, West Hoboken, N. J. It admits of six different changes, and affords opportunities for more poses than any other single accessory of which we know.

A RETOUCHER'S TOOL.—Mr. F. B. CLENCH Fairport, N. Y., suggests that the introduction of a set of blades to fit into a retoucher's pencil, for the use of retouchers, would prove profitable. What is needed is a tool of small size and of the finest quality of steel, with a keen edge to shave down the details of a negative without scratching or breaking the film. The suggestion is a good one, and we commend it to the trade.

STUDIES.—If you have not yet secured a set of the FALK studies, advertised on another page, you have missed something you want. $1 brings a set post-paid.

RÖNTGEN X-RAY PLATES AND FILMS.—In response to a demand for plates especially sensitive to the new X-ray used in sciagraphy, Mr. JOHN CARBUTT, Wayne Junction, Philadelphia, has put upon the market a new brand called Röntgen X-ray Plate. Films may be had where flexibility is desired in the sensitive medium. It is claimed that with these new plates and CARBUTT'S Tabloid developer sciagraphs can be obtained with a shorter exposure than is otherwise practicable.

A NEW MATT-SURFACE print-out paper will soon be placed upon the market by a company recently announced from Pittsfield, Mass. H. C. STIEFEL, Ph.D., a photographic chemist of repute, will have the management of this new enterprise. We have seen prints on the new paper, and they show fine qualities. Permanency is to be the motto of the new company.

WARNING TO THE CRAFT.—In the "Situation Wanted" column of our last number an advertiser seeking an engagement as an operator over the address "C.," care of the SCRANTON PHOTO SUPPLY Co., stated as his chief qualification that he had been "head operator for J. H. RYDER, of Cleveland, O., for the past year."

Mr. RYDER asks us to state that this statement is untrue and fraudulent. During the twelve years Mr. RYDER has been in business he has had four operators, and the fourth has been in his employ eleven years, having filled the post of head operator for the past six years. The advertiser complained of is a retoucher who was employed by Mr. RYDER about three weeks and discharged because his work was not satisfactory.

Mr. ROBERT NEFF KEELY, an old-time photographer, died at his home in Philadelphia, at the age of sixty-eight. He retired from business in 1870.

WITH the approach of the new landscape season our readers should remind themselves of the principles underlying all outdoor work with the camera. It is the man, and not the apparatus, who produces pictorial results; and the worker whose mind is stored with a ripe knowledge of the rules of art as applied in camera work will achieve more and better results than one who lacks this essential knowledge. We know of no photographic textbook which goes into the details of picture-making more fully or illustrates the art more intelligently than *Quarter Century in Photography*. Hundreds of landscape workers have testified their indebtedness to its plain teaching. We have replenished our stock in anticipation of the usual demand at this time of the year, and will send a copy, post free, to any address on receipt of the price, $4. To all who order within the next thirty days we will send in addition one copy of WILSON'S *In Scripture Lands*. This special offer is open only to those who order during April, sending cash direct to the publisher with order. The books will be sent by express at purchaser's cost.

AN unexpected pleasure came some days ago in the shape of a visit from Mr. FRANK H. CHILDS, of Newport, R. I., whose paper upon "Marine Photography," given in our pages a year ago, attracted so much attention. Mr. CHILDS brought with him a bulky portfolio of his recent work, comprising pictures of yachts, warships, and views of famous houses, interior and exterior. The latter were of large size, about 18 x 22, and included some of the finest interior work we have seen.

COPYRIGHT.—A hearing was recently given at Washington, by the Congressional Committee in charge of the proposed new Copyright Law, to those interested. The Photographic Copyright League was represented by its counsel and several photographers from New York and Brooklyn. The new law, when passed, will revise copyright procedure considerably, and provide for a separate bureau to look after copyright business in place of the arrangement existing at present, by which the Librarian of Congress has charge of the matter.

FROM Mr. W. T. WILKINSON, Wakefield, England, we have some wonderful products of industrial photography applied in a novel direction. They are in the shape of printed fabrics made by the use of copper-etched rollers. It is wonderful to what uses photography is being applied. Mr. WILKINSON has recently published a litfle brochure on the *Collotype;* the copyright is reserved in England; the American right is ours, and we shall probably reprint the work presently. Mr. WILKINSON is known as the talented author of our well-known publication upon *Photo-Engraving*, *Photo-Etching*, etc.

FROM Dr. R. L. WALKER, Carnegie, Pa., we have received some more excellent examples of his photographs of animals, birds, etc. They are excellently taken. Dr. WALKER seems to have an eye and taste for the unusual, and is certainly a persistent and patient artist. He gathers much enjoyment and diversion from his camera.

FROM Mr. CHARLES E. CRANE, Seattle, Wash., we have a beautiful whole size photograph of the famous Snoqualmie Falls, located about fifty miles from his residence. The view is nicely caught; the roaring water, 50 feet in width, falls 266 feet, 33 feet greater than Niagara. The heavy mist from the deep cañon causes the lower portion of the fall to be hidden and carries the clouds up the sides of the view as well; so that the true height is hardly shown by the photograph. Such views lift one above the world, as though to dwell with Nature in all her sublime grandeur.

Mr. CRANE continues to receive our MAGAZINE; he declares that "it is very interesting, and the only real magazine in the profession."

FROM Mr. W. A. BECKET, Wildwood, N. J., we have received some examples of work which are a credit to him. He finds some very interesting subjects at his winter seaside home, and he is an enterprising artist.

Louis F. Jansen. *Buffalo, N. Y.*

RESURRECTION.

H. KUEHN, NEGAT. GRAVURE C. N.

EVENING ON THE LAGUNE.

PROCESS PLATES BY CHICAGO PHOTO-ENGRAVING CO

EVENING ON THE LAGUNE

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. MAY, 1896. No. 473.

ON THE GROUND-GLASS.

NEXT month (June 21st to 27th) the annual convention takes place at Celoron, Chautauqua Lake, New York. *The Ground-Glass* rejoices that it is to be so early. The management exhibited great wisdom in making this arrangement. Our convention would not be so welcome at Celoron during the height of the usual Chautauqua summer season, for there would not then be so much room to spare.

An elaborate programme is promised, and a good attendance is expected. There can be no doubt but what all the attendants will derive some benefits or advantages, enough to "pay" for the labor and cost of being present. We urge all who can, to be there all the time.

The convention, however, does not promise to be an intellectual one in any degree. Apparently very little attention has been given to providing operative and practical instruction for the attendants. The exercises will be more in the line of kindergarten and manual training. Moreover, those who pay dues and look for instruction in return for their interest do not seem to have had much consideration from those who arranged the exercises.

The fact of the matter is, our conventions for several years have not been (*The Ground-Glass* won't say properly, but) *wholly* managed. The prime expectation from all conventions is that they should result in benefiting the craft by which they are organized and maintained—the whole craft. The exercises, therefore, should be so planned as to gather information and diffuse it in all directions among all and for the benefit of all who are interested, whether they are present or whether they are absent. Our conventions have not been so managed of late. But very little has been sent out from them for the service of the absent members. This fault is steadily working the disintegration of our national association, as the falling off in attendance each year proves.

There are other reasons, of course, why the national association does not receive the support it once did. One of these comes from the growth of our country. The distances are too great for some of our fraternity to travel in order to obtain the compensations now derivable from a convention. This fact is helping much toward the development of State organizations and conventions. How long these can be maintained depends upon a variety of circumstances. It is too early to speculate upon the probabilities. The excellent and economical management (a great desideratum) of some of these, together with the earnest efforts made to diffuse knowledge and discourage private enter-

prises, give great promise. Many barnacles must yet be knocked off before real successful and swift sailing may be expected.

The photographer is not a wealthy person. His capacity for enjoyment, as a rule, is greater than the human average, because his art teaches him to observe, and to observe is to enjoy. But he dare not indulge beyond the length of his purse. More penetrating than the X-ray is the necessity for economy. Consequently he must—when at a convention he observes the displays; the prizes given to others; the lavish expense of excursions, etc.—he must, *The Ground-Glass* avers, sooner or later ask himself the question: "Who pays for all this?" And in one way or the other the question must be—will be—answered: "*I do.*"

The Ground-Glass indulges the hope that the management will yet see its way clear to providing some practical lectures or papers, copies of which can be scattered, and that the entire income of the association will not be expended for a few. Equal dues should return equal due.

The Ground-Glass has had so many matters of interest presented to it of late that it has revolved like a weather-cock during the last month in order to get as many points for its readers as possible. As the door opened one morning the draft blew in this:

"Forty-eight actual photographs from negatives by Falk, $1.

"These studies have been carefully chosen from hundreds of negatives at the famous studio of Mr. B. J. Falk, New York. They are intended to serve as studies to help the photographer in posing, lighting, and arranging his sitters under the light.

"The collection includes full and three-quarter-length figures of men and women, children, groups, and fancy poses. Worth four times their cost. Send $1 and secure a set before they are sold.

"Mailed, post-free, on receipt of price."

This, reflects *The Ground-Glass*, is a photographic millennium surely. Thanks to Mr. Falk and the facilities of the Automatic Photograph Company, here is a fine opportunity for the would-be learner.

As these forty-eight were contemplated, *The Ground-Glass* halted at the word "secure." It is a *good* word, for it will have its influence among the wise ones. A philosopher has said:

"Our wishes, it is said, do measure just
Our capabilities. Who with his might
Aspires unto the mountains' upper height,
Holds in that aspiration a great trust
To be fulfilled; a warrant that he must
Not disregard; a strength to reach the height
To which his hopes have taken flight."

If there is one thing above another which helps the aspirant it is study—study of the works of others. In these days there is no excuse for the laggard. But remember the responsibility the philosopher puts upon you, ye who "wish," and what hope he gives, ye who "reach."

The Ground-Glass is made painfully aware very frequently, by the examples of camera work which come before it, of the fact that many begin to aspire "wrong end to." Criticising, remember, is not finding fault with and refusing to see the good in the works of others. Good lessons may be had from hard criticism, but many more may be had from honest criticism. It is a great advantage to be able to criticise fairly. Only a few have the gift. A lesson in that direction may come good right here. It is from the autobiography of Benvenuto Cellini. The author was besought to write a criticism of the statue of the "Hercules and Cacus" of Bandinelli, and he delivered himself in this way:

"The ingenious school of Florence," said I, "declares what follows: if the hair

of your Hercules were shaved off, there would not remain skull enough to hold his brains. With regard to his face, it is hard to distinguish whether it be the face of a man or that of a creature something between a lion and an ox; it discovers no attention to what it is about; and it is so ill set upon the neck, with so little art and in so ungraceful a manner, that a more shocking piece of work was never seen. His great brawny shoulders resemble the two pommels of an ass's pack-saddle; his breasts and their muscles bear no similitude to those of a man, but seem to have been drawn from a sack of melons. As he leans directly against the wall, the small of the back has the appearance of a bag filled with long cucumbers; it is impossible to conceive in what manner the two legs are fastened to this distorted figure, for it is hard to distinguish upon which leg he stands or upon which he exerts any effort of his strength; nor does he appear to stand upon both, as he is sometimes represented by those masters of the art of statuary who know something of their business. It is plain, too, that the statue inclines more than one-third of a cubit forward; and this is the greatest and the most insupportable blunder which pretenders to sculpture can be guilty of. As for the arms, they both hang down in the most awkward and ungraceful manner imaginable; and so little art is displayed in them that people would be almost tempted to think that you had never seen a naked man in your life. The right leg of Hercules and that of Cacus touch in the middle of their calves, and if they were to be separated, not one of them only, but both would remain without a calf in the place they touch; besides, one of the feet of Hercules is quite buried, and the other looks as if it stood upon hot coals."

There is a fine piece of fifteenth-century neighborliness, which the visitors to the convention may take along to guide them. Beforehand some wholesome instruction may be had by the perusal of the excellent papers by Mr. A. G. Marshall and Mr. H. Randall. Surely we should feel indebted to them for these lessons. Mr. Randall's ethics are worthy of more than a passing glance by those who incline to the path of the artist. And who may not? What is in the way? Says Mr. Randall: "With all the forces of beauty at our command; the excellencies of painters' and sculptors' conceptions—books for a mere song, what is needed?" I answer: "A keener sense of personal responsibility, application, observation, and determination, to say nothing of the cultivation of the imagination."

Recently we have requested from some of our veterans a copy of their portraits to engrave. Several have replied, "Don't be in a hurry; I am not going to die yet."

Don't be scared, gentlemen. We only wish to "make a collection." Let your autograph and your record come, too.

The Ground-Glass has itself experienced many a tumble when rampaging about the world, but it has found a Colorado craftsman who can break its record. Here is his account of himself, sent in a recent letter: After detailing his trials with X-ray photography he says:

"I shall soon try one on my foot and ankle, the one that was so badly used up six years ago, a *résumé* of which is as follows: I fell twenty-two feet, was picked up unconscious, remained so two weeks, bled at the nose, mouth, and ears for three days, travelled 225 miles before I received medical attention. The doctor discovered that my skull had been fractured at the base, the leg broken midway between the knee and ankle, big bone in the heel broken, two small bones in the foot broken, both

inside and outside ankles and five other bones in the foot dislocated. It was just four weeks after the accident that I reached the doctor, and he attended to me; two days after I started for Denver, the doctor coming as far as Albuquerque, N. M., with me, as he feared a relapse. On arriving at Denver I secured the head surgeon of the U. P. R. R. I complained of severe pain, and it was three days after before he discovered that there was another broken bone which had not been set; this he did, just five weeks after it was broken. I wore a plaster cast for forty-two days, and when it was removed the doctor was as much pleased as I was to find that it had united perfectly, and that I would not be lame—he feared it would be a ligamentous growth."

Surely this photographer is a good subject for x-tra careful cathodic treatment.

THE RÖNTGEN RAYS.

BY PRESIDENT HENRY MORTON, PH.D.

[From the "Stevens Indicator" for April, 1896.]

IN connection with Dr. Röntgen's discovery and the X-rays there are a number of facts long known which in some cases seem to be forgotten, and which, while in no way detracting from the originality and merit of his discovery, yet need to be considered in order that the true characteristics of his discovery should be recognized, and the mixed or uncertain character of many experiments recently made by others in attempting to repeat or extend his results clearly appreciated.

Thus, to begin with, it is not new that invisible radiations obtained by electrical discharges in Geissler tubes and elsewhere should produce photographic and fluorescent effects.

In the *American Journal of Art and Science*, 1864, vol. xxxvii., page 207, will be found a paper by Professor O. N. Rood, of Columbia College, entitled, "On the Action of Very Weak Electric Light on the Iodized Plate." From this paper I will make a few quotations:

"About three years ago Dove received from Mr. Gunther, of Berlin, a photograph of a bronze statue of an amazon holding a lance in a perpendicular position, Mr. Gunther at the same time calling his attention to a singular mark in the picture, which was not in the original.

"The lance was properly delineated on the negative plate, but in addition just at the tip a dark streak was visible, though nothing of the kind had been observed at the time of taking the picture. Careful examination of the plate showed two other analogous marks. Dove thought that these singular appearances might have been caused by the presence of invisible electric brushes resting on these points, and undertook some experiments to determine whether weak electric light could be photographed. Geissler tubes were used in a *dark* room and, with the aid of Gunther, he succeeded in obtaining good photographs of the stratified discharge."

Professor Rood then goes on to describe further experiments of his own made to ascertain if these faint electric lights or discharges could be photographed in a *light* room and when they were invisible to the eye. After describing some preliminary trials, he further says: "Accordingly, to make an exact experiment on this point, a sheet of white paper was placed behind one of these (Geissler) tubes, and white light reflected through it toward the camera. The intensity of this reflection was so regulated that the bright envelope of the platinum wire (in the tube) was nearly invisible, and the diffused violet

light at a greater distance from the wire *absolutely* invisible. Nevertheless, an intense photographic image of the envelope and a very distinct image of the diffused electric light was easily obtained, thus proving conclusively the correctness of Dove's assumption, that electric light which in ordinary daylight could not be seen owing to its feeble illuminating power, might yet make itself very evident on the iodized plate by virtue of its high percentage of chemical rays."

The above is interesting as showing that as early as 1864 the relatively greater photographic than visual effect of the light produced in exhausted tubes (Geissler tubes) was recognized.

About the same time and thereafter, and, indeed, up to the present day, much work has been done in photographing that part of the solar spectrum which represents those vibrations which, by reason of their short wave-length, have either little effect upon the eye or none at all.

Prof. Wm. A. Miller,[1] in London, carried this work far enough to show that he could, by the use of quartz lenses and prisms, secure a photographic spectrum from the electric light extending beyond the visible violet for a distance several times as great as separated the extreme violet from the lowest visible red at the other end of the visible spectrum. It was thus shown that *invisible* radiations of short wave-length possessed remarkable photographic power.

I will now turn to another line of observation which marks a limitation or distinction of the Röntgen effects in another direction.

When the eye is directed toward a faintly luminous object it will either at once perceive it (under favorable conditions), or not at all. In other words, nothing will be gained by continually gazing at it.

[1] Phil. Trans. of Royal Society, 1862.

On the contrary, the best chance of catching sight of a faint object, such as a feebly luminous comet, is to look away from the true direction and then, with some quickness, to turn the eyes toward it. In this way we can often secure a momentary impression of a dim object which we cannot perceive continuously.

With the sensitive photographic plate, however, all this is reversed.

An amount of light which, acting on a plate for one second produces no sensible impression, will produce a strong one if its action is continued for twenty or thirty seconds, and so on up to several hours of exposure.

One of the most interesting illustrations of this has been furnished in connection with the photographing of stars, carried on at the Harvard Observatory under the Henry Draper Memorial, maintained by Mrs. Henry Draper, of New York. But the first observation of this phenomenon was made by Mr. A. A. Common (see *Astron. Soc. Monthly Notices*, 43, 1883, page 255) in connection with his beautiful photograph of the great nebula in Orion.

It was there found that besides the impressions of visible stars, on plates exposed for a long time, there were many other similar spots or images occurring time after time in the same positions on successive plates, which were due to stars too faint to be perceived by the eye, but yet capable, by prolonged action, of producing images on the sensitive plates.

We see then that the photographic plate has yet another means of *seeing in the dark*, besides that due to its power of perceiving vibrations, whose wave-length is too short to affect the nerves of the retina. By its *accumulative* action or capacity of *storing up* the effects of any sort of vibrations capable of affecting it, rays too feeble to affect the eye will, in time, impress the sensible film.

There is yet another region of observa-

tion which should be marked off in order to appreciate fully the nature of the Röntgen discovery.

When in August of 1880 D. A. G. Bell announced his remarkable invention of the photophone, by means of which sounds and articulate speech could be conveyed from one place to another by a pencil of light, he stated at the same time that the radiant vibrations of sunlight, by which this result was secured, were only to a moderate extent impeded by a sheet of hard rubber thick enough to shut out to the eye every trace of light, even from the concentrated rays of the sun.

It had also been noticed some time ago by others that a sheet of hard rubber was not a perfect shield for a sensitive plate if there was any considerable exposure to sunlight. See also "Photography of the Infra-red Region of the Solar Spectrum," by W. H. Pickering, Ph.D., *Proceedings American Academy of Art and Sciences*, 1884.

Moreover, Carey Lea, of Philadelphia, more than twenty-five years ago showed that a negative plate could be so acted upon as to develop an image, on applying the usual developer, by the application of very moderate heat, and even of slight mechanical pressure. (See his *Manual of Photography*, 2d edition, 1871, page 408.)

This last is of special interest in connection with Tesla's recent suggestion that the Röntgen pictures may be due to the mechanical action of the impact of particles actually driven at high velocities from the cathode pole.

While the above facts detract nothing from the originality and merit of Dr. Röntgen's real discovery, they are of use in helping us to appreciate what is its important and central characteristic, and to discriminate between the same and many of the so-called repetitions and extensions of his work with which the daily papers have been filled.

The Röntgen discovery differs from all that went before, not in the broad fact that some sort of radiation would act on sensitive plates when, by passing through certain screens or otherwise, they had become or were invisible, but in that this investigator has shown a new sort of vibrations absolutely devoid of luminous properties and yet capable of *easily* penetrating certain materials of the greatest optical opacity, such as black paper.

The experimenters who have been producing shadow photographs with sunlight, electric light, and the like, have not been repeating Röntgen's operations, but only applying facts known for fifteen or more years.

There is another part of Röntgen's work which, though followed up by some, has as yet excited much less general attention, partly, no doubt, because the materials and conditions for making experiments are less easy to secure, and also because the results are not permanent, but must be inspected while they are being produced. I allude to the developments of fluorescence and the production of shadow pictures visible on a fluorescent screen.

To make this subject clear and, also, as before, to bring out the exact novelty of Röntgen's work in this connection, I must go into the early history of the subject of fluorescence.

This was first systematically studied by Prof. Stokes, of Cambridge, England, and admirably developed in his classical paper in the *Philosophical Transactions* for 1852, Part 2, page 466 *et seq.* In this place he shows that quite a number of solid bodies and solutions possess the power of absorbing light variations of various wave-lengths and then instantly emitting them again, but always with an increase of wave-length. Thus, for example, a solution of acid sulphate and quinine will absorb the extreme violet rays of the spectrum and then emit

them as bright blue rays. Again, an alcoholic solution of chlorophyl (the coloring matter of plants) will absorb yellow rays, as well as shorter ones, and emit red light.

There are many other bodies acting on and producing different rays, but in every case the emitted ray is of greater wave-length, or, as we say, lower in the spectrum than the absorbed or exciting ray.

As might naturally be expected, on this principle the extremely short wave-length of rays above the visible violet of the spectrum causes them to be absorbed by most fluorescent bodies and emitted as rays of greater wave-length, and therefore visible; and thus in this way also was supplied a method of making invisible light of solar vibrations visible.

In fact, Stokes showed that if a solar spectrum was thrown on a block of "canary glass" (glass colored greenish-yellow by oxide of uranium) its upper end was elongated or rendered visible by the fluorescent light developed, just as it was similarly extended upward when photographed upon a sensitive plate.

Besides canary glass many other materials could be used, the most efficient being a sheet of paper coated with a paint made from finely pulverized crystals of the platino-cyanide of barium. This subject was further investigated in this special relation by Stokes and also by Miller in 1862. (See *Philosophical Transactions*, 1862.)

In 1872 the present writer had the good fortune to discover in and extract from certain dense and tarry petroleum distillates a hydrocarbon, to which he gave the name *thallene*, which possessed this property of fluorescence in a pre-eminent degree. Itself of a light lemon-yellow color, if spread as a pigment on paper it shines out with a flood of grass-green light when placed in the invisible part of the spectrum, or when there fell upon it violet or blue light.

Its peculiar properties were exhibited at a lecture on fluorescence delivered in the Academy of Music in Philadelphia in 1872, in the following manner:

A screen or curtain of muslin, about twenty feet square, of the yellow color of thallene was prepared, and to this was attached a design of leaves, wreaths, etc., made of paper coated with thallene. Seen by gas-light this design could not even be recognized at a short distance, but when the rays of a powerful electric-light, sifted through a dark purple glass, which cut off all but the violet and super-violet radiations, were thrown upon it, the design fairly blazed out in vivid green on a background of muslin, which looked as dark as black velvet. The yellow muslin could not reflect even any of the violet light, but the thallene turned this, as well as the super-violet invisible rays, into green light.

A full account of this material will be found, among other publications, in *The Chemical News*, of London, 1872, vol. xxvi., page 272; *The London and Edinburgh Philosophical Magazine*, 1873, vol. xlvi., page 89; and *The American Chemist*, 1873, vol. iii., pages 81 and 162.

I regret to say, however, that with the Röntgen rays thallene does not show that remarkable fluorescence which it displays with ordinary violet and and actinic light.

The general subject of fluorescence is also discussed at some length by the present writer in the article under this heading in Johnson's *American Encyclopædia*.

Here, then, we see that prior to Röntgen's experiments it was well known that certain practically invisible rays could produce visible effects through the action of fluorescence.

What Röntgen has added to this is the knowledge that rays are developed in peculiar abundance in the highly exhausted tubes, known as "Crookes tubes," which will penetrate with unexpected facility a

great many optically opaque substances, and develop fluorescence in certain materials the most effective of which seems to be the tungstate of calcium, as Edison has discovered.

Just what is the distinguishing character of these peculiarly actinic and fluoresogenic rays is at present a problem enshrouded in great obscurity by reason of the conflicting statements of experimenters.

Röntgen and others say that they proceed from the cathode terminal. Prof. Rowland and others say that they come from the anode. Tesla thinks that they are not vibrations of any sort, but are streams of projected material particles.

It would seem that the judicious course is to build no theories, but to extend experiments and accumulate facts. This is being done by a number of experimenters of ability and experience, among whom I may mention Prof. O. N. Rood, of Columbia College, and Prof. A. M. Mayer, of the Stevens Institute of Technology, New Jersey. Their results have not yet been made public, but are, as I understand, of a very important character, proving among other things that the new rays are incapable of polarization, and, therefore, radically different from any rays of light or heat heretofore observed.

This was suggested by Röntgen, but not shown by any experimental proof.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XIV. MORE BUSINESS PHILOSOPHY CONDENSED.

THE "Answers to Questions" to the Craft," published in recent numbers of the MAGAZINE, have been much appreciated by a large body of practical workers. Their popularity was well deserved, for they offered profitable suggestions as well as definite information concerning things of daily interest to the photographer.

Since the publication of the last batch of answers, however, the correspondence resulting therefrom has reached such proportions that the *seriatim* publication of answers received is no longer practicable. I have, therefore, determined to take up a few letters at a time and give them here in a condensed form, preserving their individual interest as far as possible.

Mr. A. N. Hardy, a veteran photog. rapher on Boston's leading thoroughfare, thinks that business is improving with those who keep up a high standard of work; that while good work is the photographer's best advertisement, yet it pays to advertise in the newspapers during the holiday seasons; that the popularity of half-tone engraving is beneficial to the photographer, bringing good customers who might otherwise not have come to the studio; that, in his business, outdoor and group work grows yearly; that the best way to increase business is to do artistic work of the highest class, which will attract the attention and draw the trade of cultured people; that the photographer's service could be improved by care in the selection of apprentices and that less conceit among assistants would be desirable; that specialists and all-round men are both good in the right place; that all tasteful novelties are helpful in drawing and increasing business; that matt surface papers have made better prices possible; that the showing of a desire to please builds up a business; that all albumen paper is preferable to any glossy aristo paper, but that aristo-platino is perfectly satisfactory; that the demonstrator deserves credit for being useful and willing

to help, although not a necessity; that business would be more profitable if employés could be made to realize that avoiding waste in the use of materials means money earned; that the MAGAZINE serves him well and is worth its price; that artistic photography is more profitable than *mere* photography; and, finally, he confesses that though able to appreciate a good thing when he sees it, his own work does not satisfy him: evidence of sterling worth sufficient to wipe out the faults of a lifetime!

Mr. E. B. Luce, a progressive photographer, with studios at Worcester and Holliston, Mass., writes that notwithstanding the efforts of two "99 cents per dozen" galleries on either side of him, his business increases at fair prices for work, and that the prospects indicate a good year; that the *real* advertisement of the photographer is found in his work, though he has a standing advertisement in the local paper and has employed a solicitor to drum up commercial work, with success; has made hundreds of negatives for process workers and believes in half-tone engraving for illustrating advertising matter; that the sham "amateur" is a menace in commercial work, being more often an amateur for what it is worth than for the love of the work; that duplicate negatives carefully made are a help in getting out a large order for pictures of a single subject; that his work is better than formerly, but far from satisfactory to himself; that the best way to secure good help is to select intelligent young people and train them to do work as you desire it done; that the use of matt surface papers and the publication of a photographic calendar yearly have helped his business; that good all-round men are scarce when put to actual test; that albumen paper is still "peerless" for commercial work and large portraiture, although collodio-chloride, glacé, and matt work well for small work; that demonstrators are welcome, but seldom useful when a real difficulty crops up; that three good ways to make business profitable are: to buy stock in larger quantities for cash, to do a strictly cash business, and to hold the help responsible for material unnecessarily wasted; lastly, but not least, that *the* MAGAZINE *is all right.*

Let us now leave New England and take a look at business in the far West. Unless I am mistaken, California is still a land flowing with milk and honey for the artist in photography.

From San Diego on the coast, R. H. Furman says that the public have wearied of cheap work and the prospects are good for men producing good work; that advertising in newspapers hurts good photographers who can do really artistic work; that color-value plates are not necessary for studio work, although advantageous for interiors and views; that half-tone engraving is suitable for commercial work, but of no use to the portrait photographer; that the lack of artistic quality is the weak point of the average photographer; that his work does not satisfy him; that a more thorough cultivation of the application of art principles is desirable; that single transfer carbon prints on celluloid have proved profitable in his business; that all the printing-out papers are horrible, irregular in quality, and poor in silver; that the demonstrator is a good fellow, but not a necessity; that the sort of articles he would like to see in the MAGAZINE would be those written by Steffins, Kent, Steckel, and other leaders (he forgets that the leaders are so busy writing syndicate speeches for the numerous conventions!); that art put into photographic work makes it more profitable; and that his work is his only advertisement.

Mr. J. Pitcher Spooner, after having made a fortune under the skylight, writes from Stockton about as follows: That business grows daily for those who have kept out

of the "cheap John" trap; that advertising pays, specimens in the leading hotels and newspaper advertising constituting reliable methods; that Seed's plates meet all requirements, and that the Seed non-halation plate gives all needful color values; that half-tone engraving has done much for the photographer, bringing work which he would not have otherwise secured; that during the last three years he has done a constantly increasing business in outdoor work; that this class of work needs an up-to-date equipment and brains; after thirty-one years' work as a photographer confesses that the weakest point in his business is himself from A to Z; that he never made a sitting without feeling that he could do better if allowed to try again; that the employé should understand both the science and business necessary to make his photographic work profitable to his employer; does not hesitate to say that scarcely 20 per cent. of available help is competent in more than one branch; that the three stages of an incompetent helper are: first, swell-head; second, a business of his own; third, disastrous and speedy failure; that all-round workers are most desirable; that the photographer's patrons, like theatre-goers, need the stimulus of novelty; he joins hands with Ryder, Holler, Schumacher, and others and says: "I use aristo paper, but prefer albumen. The patron wants aristo, so I have to provide it;" he is outspoken in his affection for the demonstrator, who, he says, *always* has a new wrinkle and has broken up many a fit of "blues;" he hopes that the MAGAZINE will improve in the future as much as in the past, and, looking at the bound volumes from 1870 to 1895 on his studio shelves, says that he does not think this possible; would like all photographers to determine a uniform size of picture to be furnished at a uniform rate in all States, especially as regards size of figure and face in protraiture of standard sizes; and, finally, says with pride: "I have all my negatives since I began business here in 1870, and I find them profitable stock," which latter point should be valuable to many.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

ADVANCED SERIES, NO. I.

IN previous pages of this MAGAZINE we have discussed, month by month, the use of colors as shown by charts, for the making of which full instructions have been given.

The aim of the writer has been to present the matter of color-study in an inexpensive yet new and novel form.

The ray-shaded wheels with spaces between each line, and these converging to the centre, are designedly so arranged. The superimposed colors are grouped about the centre, and the student is thus enabled to contrast the effect with that obtained by juxtaposition of the same colors.

It is hoped that those who have followed the elementary studies given now feel encouraged to push on and build, upon the foundation thus laid, a useful structure. Just here it may be well to call attention to the mission of this MAGAZINE. It is to teach and to help.

To quote from Ruskin: "To use books rightly is to consult them for help; to appeal to them when our own knowledge fails. You may not be able to gain to-morrow what you lose to-day. Read carefully and rightly if you would win the place you desire—the place you fit yourself for. It is open to labor and to merit, but to nothing else. At the entrance of that silent

'Faubourg St. Germain' there is this brief question: 'Do you deserve to enter? Pass!' Do you long for the conversation of the wise? Learn to understand it, and you shall have it. But on other terms? No! Good books say, 'if you will not rise to us, we cannot stoop to you.' You *must* rise to the level of our thoughts if you would profit by them."

Some savans have given the name of "our sixth sense" to the color faculty. Can anyone afford to neglect its cultivation? Least of all the craftsman who in the near future, unless all signs fail, may need to exercise this faculty in order to earn his daily bread. The penalty Nature exacts for the neglect or non-use of our faculties is, after a period, enforced disuse or entire loss of capacity to enjoy.

An anecdote of what happened to a celebrated scientific man will serve to make good my assertion. In the course of some experiments in chemistry he injured one of his eyes, and he was compelled by his physician to remain for some months in a totally dark room. When again at liberty to use his eyes he found that the world had changed to his vision. It had become only white, black, and gray. He also found that his judgment of distances was incorrect. Pictures could no longer be correctly interpreted. He was compelled to begin life as a child is obliged to take up a new study. Now, for the benefit of those who would train the sense of color to fine discrimination this article for advanced study is printed.

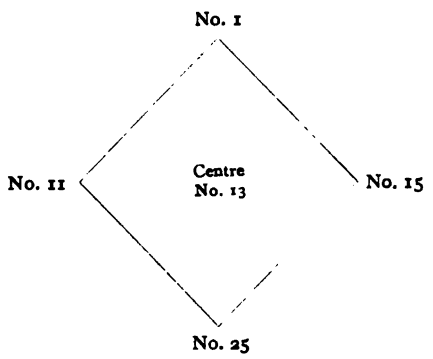
If what is written is followed thoughtfully and conscientiously I am sure it will produce results which will bring a satisfactory reward.

Again, the outlay for material is but trifling. Go to any store where art materials are kept on sale. Procure some half pans of Reeves & Son's moist elementary water colors (usually such are sold for a nickel each); procure two or three small water-color brushes in quills, with little sticks for use as handles in same. A cake of white water color, not a pan or bottle of Chinese white, for the simple cake will be found to work the best; half a dozen butter plates, which turned bottom up, offer a small rimmed receptacle for the thin washes of color we shall employ. Take a sheet of Whatman's "Not" paper for water color, size of those previously used. Find the middle of it, and lightly rule a horizontal line across. Bisect this line, and 2½ inches each way from centre, place two dots. Upon this 5-inch base describe arcs of circles from each point with radius from point to point. Let these arcs intersect above and below the centre line before found. The points of intersection are each the apex of an equilateral triangle to be produced now by connecting each intersection with first two points. We now have two equilateral triangles, base to base, forming a diamond-shaped figure. The space inclosed by this diamond is to be accurately divided into 25 equal diamonds.

As the sides of each triangle are 5 inches, it will be needful to accurately space off with the compasses upon the upper left-hand side divisions of 1 inch, and also space the lower right hand side into inches, connecting these dots by lines ruled quite heavily and exactly parallel. Reverse the above steps, and you will have the 25 diamonds accurately described within the area of the large one.

Begin at top No. 1, the two below Nos. 2 and 3, the three beneath these 4, 5, and 6. The four beneath these 7, 8, 9, 10, and the centre row 11, 12, 13, 14, 15. If all has been accurately performed the No. 13 should be a diamond placed *exactly in the centre* of the large one. Go on and number across until all are filled, and the bottom diamond of all should come No. 25.

The figure should stand thus at five points for the intervening spaces to be correct:



In order to train the eye most critically we will start with six yellows, placing them at top. It is my custom to mark the cover of the color pans round on three sides only, with a sharp penknife, then insert the point on right hand side of pan and turn back the cover and cloth as on a hinge. When the color is removed the cover can be restored, and thus keep the colors unsullied by dust. The name of the color is thus preserved, which to the tyro is a matter of importance until daily use shall make each pan an old acquaintance.

Taking the smallest quantity of water on your brush point you gently tease up a bit of the color needed and transfer it to the bottom of a butter plate. We will tint No. 1 diamond very thinly with a wash of aureolin a yellow; No. 2, gamboge; No. 3, Indian yellow; No. 4, medium cadmium; No. 5, yellow ochre; No. 6, raw sienna. The aim is to wash a *tint* over each diamond. The paper must be propped up on a book or two so as to induce the color to flow down hill. Any excess remove with a dry brush at bottom held in left hand. No. 7 tint orange chrome. You should have a large sugar lozenge to pass your brush over frequently in order to bind these tints so that they will not "wash up." Now these yellows are in daily use, and the dry colors to match are easily ground upon ink slab. Allow these seven tints to become bone dry. Add now more color to each wash, and again wash one-half the area of each diamond with thicker color, say two or three shades darker. Allow these all to dry. Now take from the *pan* for finish a few dabs of the almost solid color, and, with point held vertically, gently stipple the lower half, say one-third of the area. Let dry. Each diamond now should show of the various yellows a tint, a wash, and a stipple of strong color. Treat all the others except No. 8 thus:

In No. 9 place burnt sienna; No. 10 light red; No. 11 vermilion; No. 12 rose madder; No. 13 crimson lake—this is the centre and the richest color upon this palette—No. 14 Venetian red; No. 15 Indian red; No. 16 purple madder; No. 17 brown madder; No. 18 Vandyke brown; No. 19 brown pink; No. 20 burnt umber; No. 21 Antwerp blue; No. 22 ivory black; No. 23 indigo; No. 24 French blue; No. 25 cobalt. Set aside a cake of Payne's gray for special uses.

Now maroon orange may not be found in the list of Messrs. Reeves & Son. All the others, I think, are kept in stock. You can make a maroon orange for No. 8. Take, say three parts Payne's gray and one part No. 12 rose madder to warm it to a brown, and add No. 4 cadmium, bit by bit, until it is of an orange hue. Use, as in the case of all the others, first a tint. Let dry, then a wash over lower half. Dry. Then solid stipple over say one-third of the wash.

The family of reds, from Nos. 10 to 15, will merit much attention, while the group of browns will be most useful in breaking greens and other colors. The student will notice that no green enters into our scheme now. We choose four blues and one black to use for this purpose, of which more at some future time. This scheme mainly is that of Prof. Barnard, a talented landscape painter who taught some years since. Let no one be deterred from the study of it. I can vouch for its exceeding useful-

ness, and it will surely prove worth the study.

Life to be worthy of a rational being must be progressive. We should always aim to do *more* and *better* work in the future than in times past.

(To be continued.)

PHOTOGRAPHIC SHUTTERS.

BY H. W. HALES.

THERE are probably few things connected with photography upon which so much ingenuity has been expended and also so much wasted as the above, and one reason for this is that comparatively few photographers work exactly alike, and a shutter, therefore, that suits one man perfectly is considered by another as not adapted for his use at all; hence the "perfect" shutter has not been invented yet, and probably never will be. In looking over the advertisements of shutters a few years ago we find that a large portion of them are now out of existence, and this includes some really meritorious ones which deserved a better fate. The object of the writer of this is to call the attention of the practical worker to the different styles of shutters and to give a few practical hints in their selection or purchase. In doing this it will be as well to mention a few of the principles involved, and to mention a few of the most striking of each type. One of the oldest and also most useful class of shutters is that known as the "roller blind" type. These are made to use directly in front of the plate holder inside the camera; also on the hood of the lens, and sometimes just behind the lens or between the combinations of the latter. One advantage of this style of shutter is the large amount of *practical* light passes, and in this respect it has never been surpassed, if ever equalled by any other type of shutter, and there is no doubt whatever that a shutter of this type, working just in front of the plate, will take an instantaneous view with less time than any other shutter in existence, its only drawback being its comparatively large size and bulk.

The shutters of this type which are used on the hood of the lens do splendid work, and if they are placed inside the camera and just behind the lens they leave little to be desired, as they are then extremely rapid.

One class of shutter which had a very short existences was the "go and return" variety, as it was very apt to jar or shake the lens when the motion was reversed, and this occurred usually in the middle of an exposure. Of the sliding and rising and falling varieties there have been many types, and some of them undoubtedly did and now do excellent work, and there are some photographers who still stick to and pin their faith on this class of shutters. For landscape, where it is desirable to give more exposure to the foreground, a shutter with an up-and-down motion certainly possesses an advantage, and those who have time to experiment may perhaps profitably look up and improve this type of shutter.

Another type of shutter which is now very largely used is the iris diaphragm variety, and mechanically it is certainly remarkably perfect. Its drawback, however, is that it gives more exposure to the centre of the plate than the edges, and while this is generally not noticed, at times it is apparent to any critical observer. Excellent work, however, has been and is now done with this type of shutter, and its small size has rendered it very popular with amateurs. For studio purposes there are many excel-

lent shutters in the market, but the writer of this would prefer one as noiseless as possible, as every operator knows—much to his annoyance sometimes—that once in a while he will be sure to get a sitter that will jump or start every time an exposure is made, and there is certainly nothing more trying than this to a practical and busy man. For view work out of doors it is necessary that the shutter should be absolutely light tight, and of such a construction that it cannot possibly open by accident; on this account all shutters that are not positive in their action had better be left alone.

Many foggy and hazy pictures are constantly being produced by amateurs, who seem to be quite oblivious to the fact that light is streaming through the shutter while they are waiting to take the view.

For marine work, especially where there are moving boats and vessels, a shutter that gives an equal exposure all over the plate will be found the best.

AN OPEN LETTER.

MR. EDWARD L. WILSON.

MY DEAR SIR: Whenever I see the term operator applied in photographic periodicals or text-books to one who manipulates a camera in a professional studio I say to myself that this is an expression that should be eliminated from the vocabulary of every photographer in the land. The word conjures up visions of hospital amphitheatres, in which white-robed surgeons dexterously handle the lancet or bistoury, while the sanguinary fluid of some poor fellow-mortal who writhes in agony trickles to the floor in rivulets. Why make women nervous and children scared by suggesting the idea that they are to undergo an operation of some kind? Why not call the gentleman who does the posing and the lighting and the exposing, and all the practical work connected with the camera, an artist? If he understands his business he deserves the designation. One would undoubtedly be justified in calling some photographers operators, for their work shows what can be accomplished by means of a camera in disfiguring the human form divine. But, happily for the art-science, that class of photographers is annually diminishing in numbers. Nowadays a photographer must be progressive if he wants to succeed. Why, then, retain an obsolete term that is a misnomer? Do away with it, brethren of the camera and studio, and henceforth style your assistants artists.

I see by your excellent MAGAZINE that the artists of Germany are still disputing whether photography is an art or not. I thought that vexed question was settled long ago. There are a number of artists here in Detroit, all painters, who use the camera, and who declare unanimously that photography *is* an art. It seems that the more an artist knows of photography the more he is disposed to admit that it is an art, limited, alas! to monotint. But who can tell? Before the end of the century the average photographer, amateur and professional, may be able to reproduce the colors of nature by means of his apparatus. The present methods of color photography are unsatisfactory at times, for the result is not always true to life, and the methods are too complicated for ninety-nine out of a hundred disciples of Daguerre. But they are destined to be greatly improved upon, and will be so simplified in time that every photographer may turn out pictures in color.

I cannot let the present opportunity pass without saying a word on accessories, a subject to which you have paid much at-

tention of late. That a photograph can be very much improved by the use of proper accessories goes without saying. Heretofore professionals have been deterred from using decorative furniture, hangings, armor, and other things that would give their pictures an artistic effect, by the enormous prices charged for such articles, but recently inexpensive accessories have come into the market, and with an increased demand will come an increased supply. A Michigan furniture firm is already turning out reproductions of antique furniture, and, I believe, would find photographers good customers if it would bring its goods to their attention. Wholesale dry-goods firms should likewise advertise their decorative stuffs in photographic periodicals, and they will be astonished at the result. They will create a new market for their fabrics.

DR. HUGO ERICHSEN.

DETROIT, MICHIGAN.

THE BUSINESS END OF THE QUESTION.

BY D. BACHRACH.

IN the discussion of the question of emulsion *vs.* albumen paper for printing photographs, the business view of the question, to those who aspire to raise our profession as much as possible out of the mire, financially and otherwise, has, so far, been ignored.

Even granting that the question of relative permanence of results has not been determined, I would like to ask the better class of photographers on which side their bread is buttered? Is it on the side that puts the product in its qualities, after the negative gets to the printer, on a dead level with every tinkerer and cheap John who buys the same paper, or in adopting one where each photographer puts his own individuality in that, as he does in his negative?

I have already proved by our own experience that the old method saves labor, both in the toning and washing operations, and in the finishing, and is therefore in that sense cheaper. But it is also true that in emulsion papers there is no latitude of treatment. Each paper must be treated by the method recommended by the makers, and those who would avoid trouble must see their prints exactly like those of everyone who uses that paper. Whatever is made easy and mechanical is one more nail in the coffin of fair prices for superior skill and taste. On the contrary, the results on albumen paper, though always good in first-class hands, can be varied to suit each individual taste. One may like very warm tones; the other very cold tones, black and gray; another the medium between the two; yet all be equally good according to the taste and skill employed. One may like strong negatives and a weak silver bath; another more delicate negatives and a strong bath. Both may yield excellent results, and yet differ entirely in character. One may like the purplish tones of the acetate bath; another the neutral warm black of the lime bath (in my opinion the most artistic of all); another prefers the brown and blue-black of the simple bicarbonate of soda bath. In none of these cases can exact imitation be followed by the cheaper class of men, but only by those with equal skill.

In all the emulsion papers, the hard steely whites produced by the enamelled paper forming the support are in evidence where the negative is much stronger than a mud wash, and wherever the toning is pushed in the least beyond a certain limit

we have the horrid effect of cold tones in the half-shades with warmer color in the deep blacks, while every artistic instinct points the other way. And no matter how strong may be the negative, unless it represents nothing but black and white, the albumen print always has a softer and more fleshy effect in the whites, an effect distinctly different from most emulsion prints, and by which the high-priced man can show his patrons that his work is not like his dollar or two-dollar-a-dozen neighbor, who buys ready-made and ready-cut print-out papers. It is much more easy to convince people when the tones and surfaces of your prints are not like those of the host of photographers who put themselves, so to say, in the hands of the manufacturers.

In other words, what is for the benefit of the unskilful and ignorant in our business is to the detriment of those who are of the better class. The dry plate was already a step in the levelling direction, yet its advantages compensated for it; but these papers, while incalculably more levelling, certainly show no compensating advantages so far, and, if we can save ourselves from the inevitable result, an intelligent self-interest justifies our doing so.

X-CATHODE-RAY OGRAPHY.

BY A. G. MARSHALL.

Of all popular misconceptions that in regard to Professor Röntgen's discovery is one of the most complete of recent times. For this the sensation columns of the newspapers are chiefly responsible. So far from being "public educators," they are often, as in this instance, public misinformers. Nearly every person who has spoken to me upon the subject is filled with a marvellous idea of the interior of solid wood and the human system being rendered transparent by some new sort of light, so that hidden objects become visible and the vital organs and processes of health and disease are brought to view and photographed.

There seems to be no doubt that this newly discovered force can be made available in locating foreign substances of a metallic nature and morbid changes in the osseous system in the living human body. Possibly with more sensitive plates or differently constructed apparatus still more may be revealed in the human mechanism.

It is extremely improbable that any direct use can be made of the X-rays in art, unless they might prove a useful assistant to the calipers in getting accurate measurements of the skeleton for the purposes of sculpture.

As a curiosity, ornamental designs in several shades could be produced with metal and other stencils of various resistance to the rays, and it might be possible even to produce a sort of mezzotint picture by superposition of stencils for the different parts, made of substances more or less opaque to these rays; sharpness of definition being secured by bringing the stencils as nearly as possible into contact with the sensitive plate and softened or blended edges by placing them at a little distance. I have not learned whether experiments have been made to determine whether the rays are completely stopped by an extremely thin plate of metal or bone as by a relatively thick mass. If variations in the thickness of the media interposed between the cathode and the sensitive surface will show variations in their permeability to the rays, some useful advantage may be derived from the fact.

C. Ruf, Photographer,
Freiburg.

Photo-Correspondenz,
Pub. Vienna.

COSTUME PORTRAIT.

(Zeit der Konigen Louise.)

X-RAY PHOTOGRAPHY.

BY S. H. BRACKETT,
Teacher of Natural Sciences at St. Johnsbury (Vt.) Academy.

AMONG the many results obtained in the new photography the accompanying print may deserve a place. The negative has other details, which are shown by a darker print, though in that case the articulation of the joints is somewhat lost.

The work was done with an App's coil, giving a four-inch spark and a Crookes tube with three terminals, using the middle one for the rays. I have tried the effect of an aluminum prism and an aluminous lens, but got from them no indication of refraction. I have made one trial of reflecting the rays from glass, which it is claimed by a Toronto professor can be done, but I got no evidence of reflection.

I beg leave to differ most decidedly from those who say this work is not photography in any sense, for these reasons: It has long been known that all our ordinary photography is done largely by those radiant energy waves which are shorter than any which we call light, and long-ago photographs, so called without objection, were made in the dark, merely by letting that portion of the spectrum above the violet into the room by which to expose the object.

No claim is made yet that all the work of ordinary photography is done by these rays, but these are all prints as really as any picture made through a negative, only that it takes a different class of substances to intercept or let through these newly discovered rays. I have one picture in which the steel frame of a pair of eyeglasses is shown partly under a bone of my hand, so that the print is much more than a silhouette, and that exposure would readily have located a piece of steel in the hand whether it lay in line with a bone or not.

F. A. Balch and Prof. Brackett. Photographers.
A SCIAGRAPH.

STUDIES OF THE CLOUDS.

IN harmony with the feeling of our April number, we here present engravings of four very beautiful cloud photographs, sent us by Mr. O. von Bargen, 1526 Bush Street, San Francisco, Cal. The titles he gives the subjects are underneath the pic-

O. von Bargen, Photographer. San Francisco.

1. SEA OF CLOUDS. 2. A STORM. 3. SUNSET ON THE PACIFIC.

tures. Mr. von Bargen writes us that the fog pictures or clouds were taken from Mt. Tamalpis. They are remarkable in effect and wonderfully show the detail of the fog and the clearness of the distance, although considerable of the value of the original photographs is lost by half-tone engraving. The mountain seen in the distance is more than forty miles away. It was by a mere chance that such a clear atmosphere could be had as to enable our photographer to get these successful pictures. The views were taken early in the morning, to do which necessitated camping out all night on the mountain. The sunset picture our friend writes us was solarized by over-exposure, so the sun appeared black in the print. This was overcome by the use of a circular piece of paper placed upon the negative. The picture herewith is the Golden Gate at San Francisco. The altitude from which the cloud pictures were taken was 2600 feet; the mountain in the distance is Mt. Diabolo; below are some details which Mr. von Bargen supplies concerning the taking of the pictures.

Both fog pictures. } Stop F./20, exposure about ½ second, through yellow screen, Seed 26.

Sunset—Stop F/35, exposure about 1½ seconds, through yellow screen, Eagle ortho.

The Seed plates were backed also with a mixture of venetian red, glycerine, and alcohol, applied with camel's-hair brush.

While I am writing I will (though it is only a small matter) describe my way of burnishing mounted pictures without a regular burnisher. All that is needed is a plate of glass and a flat-iron. Put the glass (an old, large negative cleaned) on a flat board or book; place the mounted picture face down on the glass, and press the heated iron over the back. After first flattening out the picture, get the card beyond the edge of the glass and bend the mount up while rubbing the iron across. After a little practice one can burnish about as well as with an ordinary burnisher. The prints must be dry. Those I sent you were burnished this way.

Very respectfully,

O. VON BARGEN.

O. von Bargen, San Francisco.

THE GOLDEN GATE.

PHOTOGRAPHS RESEMBLING ENGRAVINGS—A NEW PRINTING PROCESS.

H. E. Mendelssohn, Photo., New York.

MEMORIES.

Copyright, 1895, by the Taber Art Co., New York.

A NOVEL printing process has been recently patented by Mr. H. E. Mendelssohn, of this city. This is a method of printing which, by purely photographic means, gives a photograph which in appearance closely resembles a fine steel or wood engraving.

The process is applicable to prints of any subject for which the appearance of an engraving effect would be appropriate, as landscapes, figure studies, genré, commercial work, etc. Its application to the production of printing-blocks for the press is now under investigation, and

promises results of interest and importance. When perfected, this application of the new process will give blocks enabling newspapers and magazines to produce by inexpensive photo-mechanical means pictures having a full range of tone from pure white to black, in contradistinction to the half-tone engraving which presents a tint or veil even over the highest lights of the picture.

Unfortunately, as the pictures are what may be called full-tone engravings, the half-tone method of reproduction is destructive of their peculiar advantage, hence we cannot illustrate this notice.

The specification of Mr. Mendelssohn's patent for the process (No. 550,079, Nov. 19, 1895) gives more than one way of producing the new style of photograph. We quote the first method, which is outlined as follows:

"First. I produce a copy or print on paper from an engraved or etched plate, lithograph, zincograph, or electrotype, containing in negative lines, dots, stipples, or other pattern that usually appears on an engraving. From the copy or print so obtained a negative is taken in the usual manner.

"Second. I also form a mixture composed of about 30 ounces of soft gelatine, 12 ounces of sugar, 90 ounces of water, to which is added after the gelatine is dissolved, about one-sixth drachm of India ink. This mixture is spread upon a sheet of photographic or other paper, and after it has thoroughly set it is sensitized by immersion in a bath composed of about 3 ounces of bichromate of potassium, 70 grains of ammonium carbonate, and 100 ounces of water. The backed and sensitized gelatinous film is thoroughly dried and cut up into proper sizes.

"Third. The films formed in the above manner are exposed to light under the negative containing the lines, dots, or stipples, the exposure being timed preferably by an actinometer. After proper exposure the print is immersed in cold water to become soft.

"Fourth. I take an ordinary negative produced in the usual manner, and from which a print containing my novel effect is to be obtained. This negative is coated with a solution composed of about 95 parts of turpentine and 5 parts of rosin, and is allowed to dry.

"Fifth. The negative is immersed in cold water, and its face brought into optical contact with the printed gelatinous film. All the water is expelled between the two surfaces by the pressure of a squeegee, and after a few minutes the film will have set and united with the negative. The negative is in this condition placed in a tray containing water, which is heated to about 85° to 140° Fahr. After a short time the paper backing will become loosened and may be drawn off. The negative is now washed until all the gelatine which has not been affected by the light, and has consequently remained soluble, is washed away. Those particles of gelatine, however, which have been affected by light, and have thereby been rendered insoluble, will not be affected by the washing, and will remain inseparably united with the negative. The result will be, therefore, a compound negative composed of a reticulated, translucent gelatine coating, containing lines, dots, and stipples, and of an original negative to which such coating is intimately secured.

"Sixth. From this compound negative the pictures are now printed in the ordinary photographic manner on photographic paper or other substance, and will have the appearance of finely executed engravings. Owing to the exceeding thinness of the film, its reticulated condition, and the fact that it is inseparably united to the negative, none of the details or half-tones of the negative are lost by the transmission of the light through the film

while printing, and therefore the product will possess a high artistic value."

As the foregoing implies, the character of the dot, or line, or stipple pattern of the gelatinous coating may be varied at will, and one pattern applied to the whole of a negative, or various patterns in parts of the negative, to produce different effects, viz., one stipple may be used for the face and bust of a portrait, another for the background, and another for the dress details, etc., according to the effect desired.

Prepared films, ready for transfer to the photographer's negatives in this method are to be placed on the market for the use of those licensed to work the process. These prepared films will offer a variety of effects, and will be made in the usual cut sizes, similar to those used for plates, printing paper, etc.

A NEW VOIGTLANDER LENS.

Voigtlander & Son have introduced a new portrait lens, which is said to accomplish for the portraitist what the new anastigmats have done for the outdoor and reproduction workers. The lens is of the Petzval type, but much greater rapidity has been secured in its action without the impairment of the other requisite qualities. This instrument has an available diameter of about four inches and a focal length of double the diameter of the lens, and works at $f/2$. Thus it may be said to be four times as rapid as the ordinary rapid portrait objective with the usual aperture of $f/4$. The two combinations of the lens system are made of different glasses cemented together and placed a long way apart. There is practically no distortion with this lens, and it is corrected for astigmatism. The slight depth inevitably resulting from its construction for rapidity restricts the use of the lens to small bust pictures, but with instruments of wider diameter larger pictures may be secured.

John M. Townsend, Photographer, Philadelphia.

Half-tone by The Photo-Chromotype Engraving Co., Philadelphia.

A COUNTRY SEAT.

Residence of Abraham M. Beitler, Esq., Torresdale, Pa.

The original photograph was made on five 8 x 10 "Cramer-Crown" plates; these were printed on Aristo-Platino paper then joined where the lines would show the least, and copied to reduced size, thus resulting in a panoramic view.

CLOUD-FORMS THAT HAVE BEEN.

BY DR. JOHN NICOL.

THERE are few whose reminiscences extend over a period of sixty years of active life who cannot recall certain times, occurrences or actions that bring happier memories than all the rest, and stand out "like green islands in the ocean of time." Some of mine are the many happy hours spent in the beautiful home of the venerable and lovable Professor C. Piazzi Smyth, then Astronomer Royal for Scotland, getting notes and material for a series of lectures on the Great Pyramids I recall espepecially the night on which the first lecture was delivered in the great lecture hall of the Edinburgh Museum of Science and Art, which was literally packed from floor to ceiling—the seats commencing in front of the lecture table on the floor and rising up to near the top. Then, for the first time, were shown probably the most technically perfect set of lantern slides that had or have ever been produced. They were made by Professor Smyth from his own negatives, each an inch square—on the end of a microscopic glass—and many, probably most of the slides were made from only a small portion of the negative; and yet so perfect had been the negative and was the slide, that although magnified so as to fill a forty-feet screen, the markings on the shells in the sands of the desert were distinctly visible. In Glasgow, although the City Hall holds 3000, fully as many were turned away as were admitted, and the lecture had to be three times repeated. The lecture and the

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slides were as enthusiastically received in most of the other larger cities, wherever, indeed, they were shown.

From this the readers of the MAGAZINE will be able, in some degree, to understand with what pleasure I received from the editor the volume that lies before me, with a request to say something about it for the May number, and with what delight I have examined, one by one, the hundred beautiful reproductions of what is at once the grandest and the least understood of the so-called natural phenomena.

Professor Smyth has long given particular attention to meteorological matters, and at the great international photographic exhibition in Edinburgh in 1876-77 showed his "cloud-taking camera" with his, too little known, plano-concave corrector, for which he was awarded a silver medal; and for some time, in his quiet retirement at Ripon, Eng., he has been keeping his honored "old age green" by the study and reproduction of cloud-forms, not from a pictorial or art point of view, but in connection with other meteorological and astronomical phenomena as a basis for future study and possible discovery of laws and conditions that have as yet lain beyond the ken of the keenest students.

In this way, and with this object in view, he seems to have produced three volumes, each containing about 150 10 x 9 inch bromide prints enlarged from three-inch negatives taken in 1892, 1893, and 1894. They are arranged in consecutive order, with marginal information, including date, hour, direction, pressure, wind, spectrum bands, proportion of visual hemisphere occupied, state of weather, moon and planetary positions, etc., so that, almost in the Professor's own words, he who carefully examines the pictures and looks down the chronological index may be

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privileged to obtain some remarkable insights into one of the most wonderful, and as yet least known and appreciated, scien-

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tific branches of the aerial creation of God.

The book before me is volume iv., and stated by Professor Smyth to be the "overflow" or "imperfect and merely accidental compilation of volume ii.," including scenes from June 5, 1893 to March 10, 1894; in other words, 100 spare or duplicate prints of cloudland, strongly bound in a massive volume measuring 12 x 12 x 2¼, beautifully interesting to those whose aim is no higher than simply to admire the beautiful because it is so, but to those who recognize in them the hand of the omnipotent Lawgiver, a subject for much pleasant, patient study and a probable means of unveiling much hitherto hidden truth.

In several paragraphs of the beautifully written appendix Professor Smyth mourns over the loss of a number of his negatives, they having "gone utterly to optical ruin by growing coatings of crystals over their filmed surfaces," while others apparently had become "sickly green in color and so desperately opaque as to be unable to furnish fresh copies." A little further on he says, "a more leisurely and careful examination, however, soon proved that it was only plates that had been developed by an alkaline formula that had failed, while much older negatives developed by an acid solution were still clear of such interferences to distinct vision." In this he is undoubtedly wrong, as it is not to the development but to the fixing that the fault can be traced. Professor Smyth, like other "old-time" photographers, has had longer experience with collodion, wet and dry, than with gelatine, and may not have only at that stage been converted into the so-called double salt, silver and sodium

hyposulphite, insoluble in water, and therefore irremovable by any amount of washing, and if left in the film assumes the appearance of a yellowish-green stain by the action of light. It is, however, readily soluble in a solution of sodium hyposulphite, and in that state soluble in water and easily removed from the film by sufficient fully realized the greater difficulty in removing soluble salts from the thicker film, and he may rest assured that the crystals formed on his negatives are simply sodium hyposulphite, that should and could have been removed by sufficient washing.

In the same way, the "sickly green" to which he refers is a result of insufficient fixing. It is now and has for a long time been well known that a negative is not fixed as soon as the silver bromide disappears. The unacted-on sensitive salt has washing. If then the negative be left in the fixing bath for at least five minutes after the white appearance has completely gone there need be no fear of the "sickly green."

[The volume alluded to was sent to us personally by our old-time and valued friend. Thinking it would give them both pleasure and prove of interest to our readers, we asked Dr. Nicol to prepare this sketch. His generous response is before you. We would add our praise of the wonderful photographs, and have caused four selections to be engraved and presented herewith. We wish there was room for the entire unique collection and the attendant remarks.—E. L. W.]

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THE outdoor worker, at this season of the year, should watch carefully for the strong light impigning on the delicate foilage which he includes in his views. The use of backed plates for such work is essential. Anti-halo, sold by Messrs. E. & H. T. Anthony & Co., is an excellent thing with which to prevent halation.

A PLEA FOR HIGH ART IN PHOTOGRAPHY.

BY HERBERT RANDALL.

EMERSON held that a community or a man is entitled to be judged by his best. This being so, we must grant that photography should be classed as art as much as painting, sculpture, and architecture. But, were we to acknowledge the predominant proportion of inferior, or mediocre, imitative expression in photography, it would be most ludicrous to term it art.

As the rival of painting, photography has its distinct advantages. The painter must acknowledge that the abundant product of the lens has helped to develop appreciation of the æsthetic, has evolved a spirit of criticism in portraiture, and all its tendencies are for advancement and more universal discernment of the beautiful. It is subordinate as compared with sculpture and painting, but it has not attained anything like its possibilities as yet. I contend they are almost as limitless as those of the brush or the chisel.

I do not question the capacity of the man who audaciously heralds his genius to the public by the words, "art photographer," and then surrounds it with caricatures, like a halo of recommendation; the author's freedom with English is commendable; but he should grapple with his opportunities and prove himself entitled to his pretensions. Although the masses may not be able to discriminate, his perverted ignorance has demoralized and endangered the profession, the principle of the critic unfortunately being to judge by the worst. I claim there is no excuse for any man's walking in the old conservative paths to-day, simply because they are old. I take no such narrow view of life in any channel; slowness cannot be tolerated.

There is a standard of excellence, which is truth, consistent with our inherent element, ever higher in its character and attained only through the culture of our faculties. The resources are at hand; the trouble is lack of application, a disposition not to improve by blunders, egotism, and a reposeful state of sensitiveness which ignores knowledge and criticism. This arrests all possibilities of endeavor, assumes the joy of superiority, and, enwrapped in the air of self-satisfaction, the unambitious "art photographer," keeps cool in summer, warm in winter, sleeps and eats like other mortals, and his spiritual nature appoints its own limits, the ideal of which is correspondingly low. This, of course, applies to men in all vocations of life; they rank by their moral, intellectual, and spiritual status; but the fact that to the word "Art" essentially belongs the classical, the beautiful, the sympathy and companionship of all that is noble, the surpassing of the ordinary, indicates the importance of an ethical consideration of the word.

With all the forces of beauty at our command, the excellencies of painters' and sculptors' conceptions, books for a mere song—what is needed? I answer, a keener sense of personal responsibility, application, observation, ambition, and determination, sentiment, and the cultivation of the imagination. There must be interior harmony, consistent with high ideals, if the products are to be of pleasing order. All the theories of mechanical manipulations, all the formulas ever enunciated, are of secondary importance when compared with these requisites.

It is unfortunate for the confirmed experimentalist that these are principles which cannot be bottled up and bought and sold. They are to be obtained only

by the striving; yet the observer, if he be a student of Nature, acquires them almost unconsciously. Nature spontaneously contributes to the æsthetic consciousness, and, if our relation to it is not abnormal, I affirm that its sublimity will illuminate our perception and develop our faculties in symmetry and purpose of expression. Nature calls forth our best thought and feeling, wider sympathy, and an exaltation of the spirit. We gather strength from the winding snow and springing stream, blossoms and fragrance, and in consequence feel a grasp of knowledge and a wealth of position which the power of money cannot bestow. And more than this: there is a ceaseless growth associated with this communion. Thus, as the rainbow seems to color itself, so the senses become more and more susceptible to the lavish enrapture afforded.

To him who says this is vague I reply: he knows not the discipline, and would he beautify his art, let him refine his own nature, learn of the fields and woods, the waters, winds, and sky, and not confine himself too closely to the prison-house of commercial measures.

PRACTICAL POINTS FROM THE INDIANA CONVENTION.

A CONVENTION in its primary meaning is a coming together, and is a part of civilization and progress. Men cannot meet without exchanging experiences, and all talk is but the exchanging of men's experience. In much deliberation there is much wisdom—"that's the value of conventions in a nutshell."

It is not given to any one man to know it all, but in these conventions we get in a short time what some other may have had years to obtain.

Co-operation has done much of late in developing our photographic interests, hence I would urge upon every person engaged in the art to sustain both the State and National Associations.

The journals are doing much to keep you well informed, and I take it for granted that all photographers subscribe for some or all of the them.—*President Heimberger.*

As I understand a photographic convention, it is a school where we all come to learn something that will benefit us in our work and make us dollars. You will pardon me, therefore, if I talk to you plainly. If the average photographer was to be brought up for an examination in photographic chemistry, how many do you think would pass? About one in ten. A photographer will spend hours thinking up some attractive position and spoil it all with his lack of knowledge of his developer. Comparatively few know the action of the agents, one to the other, that compose these developers. It makes little difference what developing agent you use, whether pyro, metol, eikonogen, or hydroquinone. If you will give this department a little more study, find out of what your chemicals are made, their action one to another, you will have fewer flat, contrasty, discolored, and foggy negatives. You will find less fault with the plates you use, and do more with the use of them. Some say, "Why, I am using the formula just as it is published." Yes, on all kinds of exposures, mixed the same identical way, and expect the plates to all come out exactly alike, and all perfect. Those of you who had the pleasure of working the wet process can appreciate more fully how much depends on your knowledge of chemicals. Keep your exposures separate; short exposures, full time, light and dark draperies. Otherwise, no man should start into

developing without three trays, with three kinds of solutions; a weak solution, a normal solution, and one for holding back those exposures which are overtimed. Then, if you thoroughly understand your chemical action, you will have little trouble in turning out uniform negatives.—*Wilkie Coss.*

We, as photographers, have chosen a profession which, when properly conducted, is capable of great application and achievement; an art which may be so elevated and dignified, by careful attention to details, prompt and honorable service to our own patrons, manly deportment in our daily lives, as would soon class us among the leading professions of the day.

That we as professional photographers have been regarded in the eyes of the public as following an art of easy-going practice and common-place attainment is largely due to our own inability to properly present to our constituents the full force of our environment as co-workers in one of the most absorbing and entertaining arts of the present age.—*F. R. Barrows.*

What the public demands to-day is not a picture of elaborate accessories, theatrical posings, or strained effects in lighting. What it *does* want is good solid work. The man who "lives and has his being" in a little village and looks to the farmer for his support can make just as good pictures as the person who draws his trade from Fifth Avenue. You don't need new plates, new papers, new lenses, and cameras to attain this. What you *do* need is new ideas, new brains! And in this connection it is also true that a man may be apparently clever, dazzle the eye for a moment, "own the earth," so to speak, but the meteor disappears after a time, and so will meretricious work.—*W. F. Miller.*

Special pride should be taken in the showcase and window-display. Every wide-awake photographer can make the window a feature of great interest to many people. The display should harmonize with the advertising in the papers. If there is anything new in the way of novelties, or in any new thing in photography, give it a prominent place in the display-window or showcase. It is one of the best places to advertise it. Once a week is often enough to change the display, but the glass must be kept clean.—*T. S. Clapp.*

Advertise thoroughly and efficiently, in some way or other, so that you will arrest public attention. Men will sometimes say they have tried advertising, and that it did not pay. This is only when advertising is done sparingly and grudgingly. Homœopathic doses of advertising will not pay. Perhaps it is like half a portion of physic, making the patient sick, but effecting nothing. Administer liberally, and the cure will be permanent. Some say they cannot afford to advertise. They are mistaken. They cannot afford not to advertise. Ways of advertising are as numerous as the busy brain of man can invent, and we must use our brains in judging the best means of advertising for our business.

Do not advertise something you cannot live up to. The habit of exaggerating is so common that very few believe all an advertisement says, and this habit can be carried to a point where positive damage will result.

An advertisement will not do everything. It will not have more life than is put into it. There are mummies two thousand years old who are livelier to-day than some of the paid notices in the papers, and the men who write and pay for these notices are among those who tell you advertising does not pay. An advertisement will not help you if you do not do as you

advertise. It will not bring people back to your place if you do not do all that you advertise to do. But if you are honestly doing what you agree to do it will work for you morning, noon, and night, following people through workshops, offices, and to their homes, persistently trying to do you good. Put it down among the axioms that judicious advertising always pays, and live advertising in your local, daily, and weekly papers is always judicious advertising.—*C. Pike.*

As to lighting and posing, we owe much of our success to the photo reproductions that have been so generously given us through the pages of our journals (thanks to the keen foresight of our editors in using illustrations for the education of their subscribers), and you will all agree that much of your business in this line you can trace to a thoughtful study of some of these carefully selected reproductions of photographs and paintings.—*F. R. Barrows.*

If you make a cheap grade of photographs, and this grade is desired by the customer, always make it a point to show samples of your highest-priced work, and to point out the difference in the grades of work, and nine times out of ten you will sell the highest-priced photographs. A successful photographer will exercise great patience, if necessary, and will in no way ridicule any idea suggested by his customers, but will be always ready to make a remark suggestively, one which will meet their approval, for by this time he has their idea of what they think is needed. He will by his accommodating manner strive to impress on the customers his desire to help them decide on something that will please them and all their friends.

A good photographer will not wait to be coaxed to show samples, but he will be as liberal as possible in placing the different styles before the customer, naming the price of each grade of work shown. He will soon discover, by this method, the price the customer desires to pay. This, I consider a great advantage, and I am of the opinion that it is never wise to ask customers what price photographs they care to look at. It suggests a spirit of impatience and a desire to hurry the customer on to purchase. I would not be understood to mean by this treatment an unnecessary waste of time, but by the knowledge he possesses of character he will exert all energy required to serve the customer to the best of his ability. Every man has been in a store of some kind to buy an article, and every man that has it for sale knows more or less of the influence of a first-rate, all-round salesman. In many cases it is the salesman as much as the merit or attractiveness of the articles that decides the sale.—*T. S. Clapp.*

It is up-to-date work which demands good prices, and poor work cheap prices, and you might as well try to run the water up hill as to regulate prices for all photographers to be guided by.—*A. Heimberger.*

In the printing-room our art has taken on a new impetus, owing to the introduction of that most artistic effect known as "matt surface." What photography would be to-day without it I do not know. It is the culmination of taste and refinement, and forms a *fin-de-siecle* triumph for photography. At the late exhibitions held in London, 356 out of 392 pictures were on some kind or another of matt-surfaced paper; and America can hold her own in the same proportion. With the carbon process, matt surface, platinum and bromide papers before us, the unlimited effects that can now be produced with these most beautiful printing-out mediums ever invented should spur

every photographer on to fresh study, fresh triumphs. Talking of carbons reminds me of my good friend, Mr. H. W. Minns, of Akron, Ohio, who, when asked if they were permanent, replied: "They are as unchangeable as the regards you give with them." This is a union of business and sentiment that one does not often see in these matter-of-fact days.—*W. F. Miller.*

There is no one part of a photograph studio which receives so little attention, so little thought and care as the dark-room. The average photographer thinks any old place good enough for his dark room. If the photographers of the United States (and that includes Indiana) would give their dark-room more thought and care, I think you would find a marked advance in the quality of the photographs turned out. The dark-room is of the utmost importance in the production of fine work. A dark-room should be to a photographer what a chemical laboratory is to a chemist —his pride—and you scarcely ever go into one that the photographer does not make some excuse about it. A dark-room should receive as much attention, if not more, than his reception-room, for surely as much depends upon it. Your dark-room should be large, well ventilated and clean; have plenty of sink and shelf room; a place for everything used there, and everthing in its place; use only the best chemicals, for they are the cheapest in the end, and only keep those you use there. This matter of chemicals is one that needs careful study by every photographer in the State. Were you to fill the position of demonstrator one short month, you would wonder how some photographers do as well as they do.—*Wilkie Coss.*

In all vocations of life there is one thing desired by all—success—and the different ways to this end are numerous. Business long ago ceased to be a matter of inheritance, and became the property of brains and persistence, and to gain it we should use never-tiring efforts. Each and every man should be constantly studying and devising means by which he can increase his business or hold what business he has.

One great mistake some make is that they will, by hard work and various schemes, obtain a good business and here stop, thinking the business once gained will stay with them, and further efforts are unnecessary. But ere long he finds it slipping away by not using constant means to hold the once-gained business. It is not only necessary to work to build up a business, but, when once gained, work just as hard to hold it.—*C. Pike.*

In the matter of posing and lighting, photography of the better class has most decidedly advanced. People are beginning to realize that they are human beings and not wooden statues; and hence there has arisen a demand for broader and more artistic work. The orthodox manner of taking men, women, children, groups, has now happily been relegated to the past. On all sides there are evidences of a strong effort to step from the conventional into the original. As for lighting, photographers are studying "values" as understood by the artist, realizing that there is a distinct color line between flesh tints and meaningless patches of white.

It is but a step from the skylight to that "chamber of horrors," the dark-room, which has been most happily named. It is dark by nature, and its "ways are dark" in too many instances. It is a matter of congratulation, however, that photographers are beginning to resort to hydrometer test instead of the misleading saturated solution. As for the reprehensible method of weighing out chemicals, one needs but to illustrate its utter uselessness by calling

attention to a single chemical, carbonate of potash, which changes its weight with every variation in humidity, and which should never be employed in this manner without first drying it in a pan over the fire. Again, too many resort to that culmination of all follies, known as "rule o' thumb." I never knew of but one instance where it was successful, and that in a gallery in New York, where a pinch of this or a pinch of that produced all that could be desired. It is my impression, however, that the photographer used also a pinch of something else I could not see —brains.—*W. F. Miller.*

The photographer lives in the sunshine, and should reflect it on every visitor by his brilliant qualities, tactful courtesy, deportment, and fine photographs.—*T. S. Clapp.*

THE OBSERVER'S CORNER.

BY A VETERAN OBSERVER.

A MEDICAL journal has commented upon the fact that discoveries of cures for specific diseases, which have obtained merited recognition in the profession, have originated in Europe, and cites Pasteur and Koch in proof. We may add, also, that to Liebig, a German chemist, we owe our knowledge of plant life and growth, and the further fact that plants, like animals, feed and are nourished by food, and subsequent experiment upon these lines have revolutionized our former methods of horticulture and plant-growing. The recent sensational discoveries of Prof. Röntgen, of Europe, bring emphasis to this statement, and we are led to remark that in the photographic world, as well as the medical, it is true that we are indebted to Europe, not only for the original discovery of the daguerreotype and subsequent photograph, but also for the introduction of the glass negative, collodion process, sensitized albumen paper, and the present sensitized dry plate. And right in line with this it occurs to us that German chemists have almost monoplized the manufacture of all chemicals requiring special skill in their make-up, or where it is important, as in photographic use, that they should be chemically pure. Witness metol, amidol, rodinal, eikonogen, hydrokinone, and pyrogallic acid. We do not now refer to many articles produced in Europe and imported to this country, owing to the low price of labor abroad. Until recently all hypo-soda came either from England or Germany, but the Walpole Manufacturing Company, of Walpole, Mass., has within a few years past manufactured a hypo which is bound to supersede the imported, as it is substantially as cheap, is much cleaner and drier, and can be had either granular or in crystals. Photographic paper is an article for which we are dependent upon Germany. All the plain paper used so largely at one time as the basis for albumen paper and endless roll paper, on which enlargements are made, is manufactured in Saxony. Paper manufacturers in this country have been experimenting for years, but so far as we know have not yet been successful. The paper must be fine and free from spots and blotches, and, above all, the fibre must be tough and hard in order to stand the long-continued washing required in photographic manipulations. Consequently all the albumen paper used in this country was imported from Dresden. Think of the magnitude of the business, and how by the introduction of the collodion and gelatine papers in this country the use of albumen paper became almost

obsolete. If any one had offered to wager the *Observer* five years ago that albumen paper would not be an article of merchandise in this country in 1896, he would have accepted the wager and given large odds, and, of course, with his proverbial ill-luck, or lack of good judgment, would have been the loser. At the present time he would take no risks. The possibilities of photography are so great that even large odds on the accomplishment of color photography within a short time would cause him to stake a hundred to one spot on the result.

If we were called upon to solve the problem why science and chemistry is more advanced in Europe than in the United States, we would call attention to the fact that we are a busy, active, money-getting people, and our time and attention are given to the acquisition of inventions of a practical nature, such as sewing machines, type-writers, improved machinery of all kinds, and farming implements. In these departments we lead the world. On the other hand, Europe being a much older country has an infinitely larger number of universities liberally endowed by their respective governments, where post-graduate studies are pursued by those of a scientific turn, and whose professors of eminent reputation are continually engaged in making experiments in light, optics, chemistry, and kindred subjects. The result is that there are a large number of educated gentlemen all over Europe who have a fad for chemical experiments and the time and means to gratify their inclinations in this regard. The Marquis of Salisbury, present Prime Minister of England, is a devoted chemist, and has an expensive private laboratory of his own. Berthelot, the Minister of Foreign Affairs of France, is a chemist of the highest reputation.

Other examples could be given, but these are sufficient.

History repeats itself in important inventions and discoveries, as well as in other lines. After it is announced that such a one has made a startling discovery you may expect to see in the next edition of the same paper a statement that some one else, working on the same line, had accomplished the same results. A comic paper having knowledge of this fact puts it in this way:

JONES—Do you believe Nansen has discovered the North Pole?

SMITH—No. If he had, there would have been plenty of people to declare that they had discovered it twenty years ago, but didn't think it worth mentioning.

And so, now, after the world-wide announcement of Prof. Röntgen's discoveries in connection with the cathode rays, comes Prof. Philip Lenard with proofs that he had some time previously produced the same results, though they were not accompanied with the sensational shadowgraph of the human body, which has made the experiments of Prof. Röntgen so interesting to surgeons and physicians. The repetition of history in this regard goes back to the very birth of the daguerreotype process. After Niepce had been experimenting independently for twelve years endeavoring to make a picture which would be permanent, by the action of light, he learned that Daguerre had been working on the same line. They came together and worked in unison for four years, until the death of Niepce. You remember that the French Chambers granted annuities not only to Daguerre, but also to the heirs of Niepce. While the process has been called after the name of Daguerre, and credit generally given him for the discovery on that account, we have always thought that an injustice was done Niepce, and that he should be remembered equally with Daguerre as the pioneer discoverer of the process known as the daguerreotype.

COLLODION VERSUS GELATINE, AND SOMETHING ABOUT ALBUMEN.

BY DR. H. C. STIEFEL,
Pittsfield, Mass.

THE discussion being carried on between Messrs. Bachrach and Baekeland in the MAGAZINE is of interest to the professional photographer and to the manufacturer of sensitized papers. On the one hand we have the practical professional photographer, and chemical knowledge is ably represented by Dr. Baekeland on the other.

In their discussion both gentlemen, however, fail to mention one very essential point, that is, the baryta coating placed upon the Rives or Steinbach raw paper.

In the old days of albumen paper all photographers received about the same kind of paper; the one brand may have had a little more albumen than the other; it may, perhaps, have had a little more or less salt. For all practical purposes the albumen papers were alike.

The photographer received this paper and sensitized it with nitrate of silver. Again, we can say that for all practical purposes the finished sensitized papers were alike, whether sensitized by A in Aville, or B in Beeville.

The albumenizers started out with the same raw paper, they all used similar albumen; the photographers all used one and the same chemical to sensitize, namely, nitrate of silver.

Now, let us look at the collodion and gelatine papers. The European baryta-coater purchases Rives or Steinbach paper. Upon this he places a coat of baryta suspended in a watery solution of glue, gelatine, salep, or something else. He colors the paper with some dye or other known to himself, but not to the sensitizer here in the United States. Then this baryta-coat is "hardened," that is, made waterproof. For this purpose various reagents are used (Bachrach cites various acid sulphates or other acid astringents).

This baryta paper is then sold to the American sensitizer. He buys it in good faith and coats it with emulsion. Now for a while affairs may go along all right; the emulsion is adapted to the paper. If, however, the baryta-coater in Germany changes his mode of preparing his paper even to a slight degree the sensitizer here may notice the change right away; on the other hand, he may not. The finished print will very often show it, however, in a short time.

The "hardening" process is simply a tanning process; the gelatine in the baryta-coat is converted wholly or partly into a variety of leather. Let us take it for granted that the baryta-coater uses gelatine. Now, no two batches of gelatine are exactly alike in their physical properties; the leading German gelatine manufacturer advertises openly that the gelatine he makes in winter is better than that made in summer. Does the baryta-coater bear this in mind when he "tans" his gelatine? If the gelatine is hardened too much its physical properties suffer, a brittle coating results. If not hardened enough the substratum will be in such a condition that it will be affected by climatic changes.

All the gelatine papers at present upon the market are hardened; each maker claims that his paper will stand treatment with boiling water.

Is this hardening done in a scientific way, or is the emulsion dosed until all the life has been taken out of it?

Here we have a problematic compound placed upon a substratum of unknown composition.

How is it with collodion?

In a former article I showed that collodion was a more stable and uniform article than gelatine, but even it will vary in its composition. Soluble cotton stored any length of time will in almost all cases have a decided acid odor, showing that some change has taken place in its composition, and Baekeland himself admits that a collodion film is liable to change under certain conditions.

Now, place this delicate collodion film upon a baryta substratum made with a partly destroyed gelatine, and in due course of time there will come a change. And the photographer will not like the change.

All the evils connected with gelatine papers are present to a certain extent in the collodion papers, as every collodion paper has a gelatine paper under it (the baryta coating).

There will be trouble with both gelatine and collodion papers until a substratum is used in which the inert baryta is held up by some agent of uniform composition like albumen. Collodion coated upon such a substratum will give a perfect paper.

Of course, if instead of using a high-grade gelatine the baryta-coater uses a poor quality of glue, the chances of producing a yellowing, fading, sensitized paper are increased.

A gelatine emulsion coated upon glass will not change, neither will a collodion emulsion; the bartya-coat upon the paper very often does change, and then the finished print will change with it.

ACETYLENE LIGHT.

We have received no little castigation from some of our readers for our "lack of enterprise in failing so far to tell all about the new light, Acetylene." Our readers may be sure that we are ever on the alert for anything that will serve them a good purpose; but it is just as much our duty to keep from them (not crowding our all too few pages with) matter which would not benefit them. So we have refrained from saying very much about acetylene. Even now we cannot say much, except that it is not available for photography. We do not say that acetylene gas would not produce a beautiful light for photographic uses, but the production of acetylene gas has not yet been made economically available for the photographer. Trials have been made with it as a flash light, notably by Mr. B. J. Falk, of our city, who purchased some of the carbide, made the light, and attempted photography with it. One great objection to it is the oxide or "dust" which the use of the light produces; it is many times worse than magnesium. This drawback makes its continuous use almost impossible in a confined studio. We have only to say further that the prospects are that it will be a long time before it will be available. We notice in one of our English contemporaries appears an engraving of apparatus for manufacturing this gas. We only need say such manufacture should not be attempted by those not skilled. Only a few weeks ago eight persons in New Haven, Conn., lost their lives by an attempt of this kind.

For further information we quote from the daily press a few hints which may further satisfy those who are in doubt, with the promise that we shall watch the progress of acetylene, and intend to be the first to acquaint our readers as to its availability for their use.

"Every person who is asked to invest in any of the various forms of acetylene stocks with which the country is soon to

be flooded should bear these two pertinent facts in mind: First, that although the so-called discovery of the process for making calcium carbide was made several years ago, and the Electro-Gas Company, which owns the patents taken out to cover the discovery, has been in existence for about a year, there is not to-day in existence anywhere in this country a commercial plant where calcium carbide is being produced, and not a pound of it is for sale except at chemists' prices, and not a cubic foot of acetylene gas is being produced and sold commercially; and, secondly, that no person who is directly and responsibly connected with the owners of the Electro-Gas Company will give any estimate whatever as to the cost of the calcium carbide or the resultant gas which he will guarantee to be either a correct figure or even a maximum figure of cost. . . . .

"When the remarkable stories were first started which were designed to lay the foundation for the present stock operations it was announced as soon as calcium carbide was in market every housekeeper would be emancipated from his dependence upon the gas companies. All he would have to do would be to throw a handful of carbide into a bucket of water and carry the resultant acetylene into the gas pipes of his house.

"The dangerous character of a substance like the carbide, which gives off a gas that will make an explosive compound when mixed with air, even when it is only exposed to the moisture usually present in the atmosphere, soon brought about a quasi ruling by the Board of Underwriters which is likely to stop householders from fooling with calcium carbide for gas making. Now it is asserted that this difficulty has been solved by putting the gas in liquefied form in steel cylinders under great pressure."—*N. Y. Sun.*

"Dr. W. H. Birchmore, who is a recognized authority upon these subjects, was interviewed by the New York *Times* recently regarding acetylene. These are his conclusions:

"1. Acetylene gas is useless for the purpose of reinforcing or enriching ordinary water gas.

"2. Acetylene gas is at least equal, and probably superior, to sunlight for purposes of photography.

"3. No burner now made will consume acetylene gas economically, irrespective of cost, and the invention of a burner with small enough apertures is the first serious obstacle to be overcome before the gas can be tested in comparison with ordinary illuminating gas.

"4. Pure acetylene gas, when burned as an illuminant, makes bright colors brighter and dark colors darker; it might be used in a ball-room, never in a library or ordinary sitting-room. It has a flame which is essentially, though not apparently, lavender in color, and thus distorts daylight shades.

"5. If carbide of calcium, from which acetylene is now obtained, can be produced at $45 a ton, or less, acetylene gas can be used commercially in a limited field."

"Up to this point no consideration has been made of the practicability of the proposed methods by which acetylene is to be put in use. A person who reads the literature of the subject which the acetylene people have been industriously distributing would never imagine that there could be a question as to the success of the proposed methods of use. The addition of acetylene to street gas to enrich such gas and to raise the candle-power is treated as if it were an accomplished fact; the serving of pure acetylene in house pipes and the burning of it in brilliant flames are assumed to be matters of no difficulty, and in the same way pretty pictures are shown of buildings lighted by just attaching a cylin-

der of the compressed gas to the service pipes, of street cars driven, lighted, and heated by this same means, and of bicycles going along with brilliant headlights fed from microscopic cylinders of the liquefied acetylene. These are all interesting as suggestions, but as matters of practical accomplishment they are not true."—*N. Y. Sun.*

TRIALS AND TRIBULATIONS PHOTOGRAPHIC.

BY JEX BARDWELL,
Detroit.

IT has been my habit for many years back to make stereoscopic negatives of all the places of interest in and about our beautiful City of the Straits. Copies of these used to be much prized by those passing through our city during the summer season, and I found quite a large sale from 4 x 5 scraps, negatives for which I have several thousand. My stock of stereoscopic prints is now several years old, and the sale has somewhat decreased. Scrap photographs, however, are yet in demand. Having occasion to look up a few stereoscopic prints, I found them all in excellent condition; they were printed on albumen paper and are a pleasure to look at (referring to their excellent state of preservation). Tourists used to pay 10 cents for scraps and 25 cents for stereoscopic prints, but they now pay 25 cents for a "Souvenir" containing some fifty half-tone views; and lately I came across one of these souvenirs made up almost entirely from my scraps without having asked permission or given credit—still my scraps are sometimes called for and are sold unmounted. On one unlucky day a demonstrator called on me who had some very fine prints to show me that were made on the new P. O. P. They were certainly very nice and had a brilliant surface. Being about to print a lot of scraps for the coming season I went in largely for the new P. O. P. and used the combined bath for toning and fixing, since which time how I have blessed that demonstrator! If there was any one thing that I was proud of it was the manner that my old photographs of the 60's, 70's, and 80's retained their original vigor and purity of tone. An old customer came in with a lot of negatives: "I have brought these to you because you have always been so careful in your printing for me," and when I gave him the prints he remarked, "They are very nice, you have given them a beautiful finish." Soon after this I began to notice that there was a cog loose somewhere. My old customer came in and said: "Bardwell, there is something wrong with those pictures;" other complaints came afterward, and this has turned out to be the worst happening of my (photographic) life—a set-back in my old age. There may be others that have suffered in the same way, perhaps in silence. If so, what an awful amount of suffering and sin that dreadful combined toning and fixing bath has to answer for. A curious thing I noticed was that prints lying around the room exposed to the air and sunlight were all right, while prints from the same batch packed away together would be faulty and deteriorate. I spent the best part of a day burning up every scrap of P. O. P. I had, and was getting things in readiness to return to the old reliable friend, albumen paper, about the time of the National Convention, where everything indicated that a matt surface was the coming fad. I had noticed with considerable favor some specimens of the Nepera paper, but was afraid to try it. However, Mr. Jacobi promised to send me some paper to try,

but forgot it. I commenced to print on plain silver paper, when I chanced to see some Velox plain prints, and thinking over the chemistry of the matter I have concluded that a developed print has a better chance of permanency than any printing-out paper, so I have dropped my plain silver paper for it. I have put the paper under some very severe tests with satisfactory results, and am now replacing my burnt stock on Velox matt. Using judgment in the exposure, and with a properly compounded developer suitable to the tone you desire, it is a pleasure to work the paper, and for some subjects it is especially suited. If it stands the test of time Velox paper has a future before it. I have a photograph of Miss Maggie Mitchell that I made in the year 1860 on plain paper developed with gallic acid, reddish-brown tone; the whites are pure, and the photograph is to-day, as the day when it was made, unchanged in any particular.

OUR PICTURES.

THE variety of reproductions we have promised to select for our MAGAZINE is sustained this month by a brilliant quartette of novelties.

"Evening on the Lagune" is given the place of honor. It appeared originally in our esteemed German contemporary, the *Photographisches Correspondenz*, Vienna, and is from a negative by Mr. H. Kuhn. It is a study which will delight all and become especially useful before long to those who are so fortunate as to be able to gather in marine views for their collections. The prints were produced under the care of Mr. Carl Nemethy, of the Chicago Photo. Eng. Co.

From the same source we obtain the beautiful costume portrait by Mr. Ruf, Freiburg, Germany. It occurred to us that the effective border (metal, we believe) used by Mr. Ruf might afford a suggestion to those of our enterprising portrait-makers who are constantly on the lookout for tasteful novelties.

The portrait insert this time is a very valuable one, as it affords several studies of three different faces of well-known actors, all full of suggestions. We are indebted to Mons. Nadar, of Paris, for this fine collection. The half-tones were made by the A. C. Austin Engraving Co., Albany, New York.

We have added a panoramic view from one of our own negatives of the east side of the famous island of Philæ. The camera stood upon the neighboring island of Biggeh, and more effort was made to include subject from this point than to secure pictorial effect. The island is shown from north to south. It will be remembered that considerable discussion is going on at present among scientists as to the best method of making the annual overflow of the Nile do yet more toward the irrigation of the wide tracts of land (now desert) on either side. It is proposed by some to erect a dam north of the first cataract. If this is done, the whole of this picturesque island with its treasure of magnificent ruins would, for a great part of the year, be under water. Effort is being made to prevent this possible act of vandalism. At no place in the world, within so small a space, are such wonderful ruins—Egyptian, Roman—so picturesque, so vast, and holding so many pages of history, to be found. In the centre stands the great temple of Isis. On the other side of the great wall, on the right, are the ruins of the most splendid colonnade in Egypt. We claim no great credit for this general view; but we have many treasured negatives of the details which yielded us several happy days in their taking.

The thousands of prints required for our edition were made from one negative on glossy Velox paper, by the Nepera Chemical Co., Nepera Park, N. Y. The printing occupied a few days only, and passed off without a hitch, metol-quinol being used in development according to the formula given in our last number, the prints being fixed in hypo-alum. With these facts and the prints before us, little surprise can be expressed that the Nepera Company's Velox is so rapidly becoming one of the most popular of the new printing papers.

MR. BARDWELL'S HOME.

THE happy work goes on bravely, and quite a number of generous photographers have responded to the call in our last number to assist in the purchase of a homestead for Jex Bardwell.

Do not misunderstand us, however, and begin to withhold. Not even one-tenth enough has been received. Indeed, the subscriptions have not even begun to "just pour in." But they will. Be prompt. Do not send the money to this office, but to the treasurers of the fund, Messrs. Allen Bros., Detroit, Mich.

Of course we will gladly take charge of funds if our friends desire it. All will be acknowledged in due time.

Mr. Bardwell now sends an additional incentive (in his recent letter to us). Here it is:

"FRIEND WILSON:

"I have to thank you a thousand times for what you said in your last (April) number.

"I have a premonition that it may come out all right this time. I hope so.

"My wife is growing very feeble. If we both live to the 12th of next month it will be our golden wedding. On that day fifty years ago we married. I cannot realize the fact. Wishing you health.

"Yours fraternally,

"JEX BARDWELL."

DETROIT, April 9, 1896.

Can anyone refrain after that, in face of such an opportunity?

A right-minded photographer writes:

"I also send $1.00 to the Jex Bardwell fund. Add it some time when you have other bits to send.

"His services in the 'Bromide war' were before my day as a photographer. But I think his writings since I entered the ranks have been worth the dollar to me easily. So I call it paying a debt not outlawed; not charity. Better pay such a man what we owe him *while he is living* than get him a bronze tablet after he is gone.

"F. S. SMEDLEY."

BEREA, O.

[The *italics* are Mr. Smedley's. Note them.]

Photographers, as a general thing, do not sufficiently appreciate the extent to which a negative may be improved for printing purposes by working upon a coat of matt varnish. Varnish on the glass side of the plate. A varnish of fine grain, such as Hance's ground-glass substitute, is required. Suppose we have a negative with excessive contrasts, *i. e.*, strong in the lights, feeble and lacking detail in the shadows. First coat the glass side of the negative with Hance's substitute. Scrape away the varnish from the denser portions of the negative with a sharp-knife point. Now go over the faint details in the shadows, using a fine paper stump lightly charged with graphite. Finally, work the plate a little further with a lead pencil of the right softness or hardness. Compare a print from this worked negative with one obtained previous to its treatment.

COMPOSITION AND COLOR, OR PICTORIAL POSSIBILITIES IN LANTERN SLIDES.[1]

BY A. G. MARSHALL.

WHEN that ill-natured fellow, the art critic, wishes to say something particularly mean about a carefully and conscientiously elaborated painting, why does he sum up his contempt in the word "photographic?" Is this use of the term as an expression of reproach justified? Is photography viewed from the art standpoint something wholly bad? We hear of "the Art of Painting" and of "the Art of Photography." Has one of these professions an exclusive right to be called "Art," and should the other more modestly style itself a "trade" or "manufacture?"

We term the products of all the graphic processes pictures, whether produced directly by the trained hand or through some mechanical means. In a more special sense, the painter claims the term *pictures* for his works alone, and will not admit mechanical transcripts of nature to have any right to the same title. It is with this special, this artist-sense of the word picture that we have to deal. If we determine what a picture is, in the artist sense, then it follows that the means by which it is produced is entitled to be called *art*.

I think that I may safely beg the question that "hand painting" is not necessarily art and its products not necessarily pictures. But there is hand painting and hand painting, and if technical skill alone is made the test, where shall the line be drawn between pictures and daubs? Setting aside the question of color, it must be evident that in mere correctness of draughtsmanship the best handwork can, at most, only equal the best photograph. Technical skill is admirable, it may be wonderful; and without some of it the making of a picture is impossible. But technical processes alone will not make a picture. The reason that one canvas interests us only long enough to admire the evidence of study and training, while another chains our attention and makes us forget all about paint and methods while we dream over it; this is what we are seeking, this is the reason for limiting the term "picture" to works having certain qualities.

A picture should reveal something more than the superficial shell of things. It should contain a personal element as well, showing the emotion or mental attitude of the artist with regard to his subject.

Place two painters before a scene, say an old building. One will paint a poem which will make the beholder feel the history, the joys and sorrows of those who lived and died there, and breathe the very atmosphere of the place. The other will paint bricks and mortar, and cracks in the bricks and stains on the mortar. Set up a camera and you may get more cracks in the bricks and more stains on the mortar, if that is what you want. And this is what the art critic means when he calls the painting of one of these men "photographic." It lacks the personal element, and displays only the technical, which the photograph can do just as well. The critic implies, however, that the photograph cannot embody any of this personal element, and that its production is not entitled to be called art in the same sense that a fine painting is. In this assumption I cannot quite agree, though I must allow that he has much apparent reason for placing a low artistic estimate upon photography. Photography cannot embody the personal element, or translate the artist's feelings toward nature to the same degree that painting may. But I believe that it can still embody enough of this quality to produce true pictures, and thus to be truly a fine art. Art, of whatever kind, is the expression, the embodiment, of human thought. What are called the "fine arts" express the higher thoughts or emotions. Emotion may be fully rendered only by music. The capabilities of painting come next, where the color element has full play. And all the graphic arts may incorporate more or less of this human, soul, quality which makes the difference between true art and dry collections of graphic data.

Photography, as practised by Robinson, of Tunbridge Wells, England, and Sarony, of New York (to name but two in original lines, out of many noted names on both sides of the ocean), often succeeds in attaining a real art quality; but as practised by the professional, who makes cabinet portraits at ninety-eight cents a dozen, with a life-size crayon and frame and picture wire and screw-eyes thrown in, or by the amateur who goes about pressing the button of his kodak a hundred times a day, it *sometimes* fails in reaching the art standard.

"You press the button and we do the rest" is often followed far too literally. The "rest" that is left to the professional is frequently expected to cover nearly the whole ground, and to make up for all sorts of deficiencies, ignorances, and carelessness. The most important part of making a photographic picture is the part done before, and at the time of, pressing the button: selecting the subject, getting the best view, and the most effective light, including the right amount of view, and giving the proper exposure.

Painting, at present, is certainly much indebted to photography, however reluctant she may be to admit it. Through photography and reproductive pro-

[1] A lecture before the Society of Amateur Photographers of New York, January 14, 1896.

cesses dependent upon it, copies of good pictures have been multiplied, and the public eye and taste are being educated to a degree which without such aid would be impossible. And there is no doubt that on the side of good draughtsmanship art has profited by comparison of her lines with the accurate tracings of the sun. Photography, on the other hand, is wholly indebted to the older art for there being any such thing as making pictures, and for all the ideas of structure or composition that go into them. She should not, because of her unsurpassable accuracy of delineation, disdain to learn of her big sister all she can, so that eventually her name cannot be used as a reproach to hard and dry productions of paintcraft.

In science, photography has accomplished wonders, both of discovery and record, which place her among the foremost of modern agencies for the advancement of knowledge. She has pushed discoveries in astronomy far beyond the power of the human eye to perceive even when reinforced by the most distance-piercing telescope, and she has recorded another universe of facts moving in spaces too small for the unaided eye to find. We know not how near she has come to reaching the outermost bounds of space, nor to getting down to the ultimate atoms of matter; but we do know that she has contributed much to every department of science. If she has advanced but slowly over the threshold of the Temple of Art, before whose portals she first saw and used the light, and to whose service she first offered her powers, is not Art herself somewhat to blame? She turned a very cold shoulder upon Daguerre's child, fearing it would grow into a formidable rival. But photography is not grown up, and has never harmed the Muse of the palette and paint rag. In the matter of portraiture, where rivalry was most feared, the Muse has certainly gained appreciation of the fact that the owl eyes and pussy-cat mouths, and insignificant hands and feet, which were so much admired by our ancestors, are never natural or beautiful. For this service alone, photography is entitled to all possible help in the art of seeing and representing things broadly and grandly, and arranging her subjects in accordance with the principles of æsthetics.

In the past photographic art has been handicapped by defects in the process and materials. Until recently it was impossible to render true color values, and almost impossible to avoid a certain exaggeration or intensification of detail, trivial minutiæ which very seriously militated against æsthetic breadth.

For the benefit of those who are not photographers, I will explain that "color values" are the degrees of brightness or darkness in the various hues of nature. If we call black zero and white 100, then a light sky-blue might be about 80 in the scale, and a brilliant orange the same, while a deep blue might fall at 50 or 25. With ordinary photographic plates these values come out reversed. The light blue will be the same or white as 100, the deep blue about 80, and the orange, which should be the same as the light blue, will appear as a dark-gray shade of only 25 degrees of lightness, or, perhaps, almost black. From this fact and from the intensification of detail, already mentioned, and which depends partly upon chemical action, come the well-known phenomena of freckles and deep wrinkles in fair young faces of sixteen to ninety-six summers, and which are corrected by the much-abused art of retouching.

With the new orthochromatic or true color-value plates it is now possible to come fairly near a literal translation of Nature's colors. And with the study of art principles by photographers we may expect sun painting to take its place as a recognized medium of artistic expression.

A mere collection of graphic materials is not a picture. Things without coherence or mutual relation form only chaos. A picture requires a definite plan, an harmonious arrangement of its parts. Nature may furnish the arrangement, or the artist may evolve it. It is almost impossible to find a spot from which some picturesque view may not be seen. Yet it is equally impossible to find a spot from which every view or segment of the range of vision shall be picturesque. Here lies the source of much failure in photography, and in painting as well. It is assumed that Nature's combinations are always in pictorial form, no matter how viewed or how segregated.

I can give here but a few hints and suggestions upon a subject of endless extent. But the underlying principles are simple, and the artist once upon the track, finds the application of constantly increasing interest. It is in the hope of stimulating some to study the bringing of art principles into their work that I touch upon a few points which are probably familiar to many of you.

Of the two ways of publicly exhibiting photographic art, the hanging of paper or other prints from negatives, and the projection of lantern slides, the latter is far the most effective and impressive, by reason of magnitude and brilliance, and the most popular. It is especially the artistic side of lantern photography, as distinguished from its scientific aspects and uses, which we will consider.

Composition is, if you please, an artificial affair, yet it is all based upon natural laws, deducible from natural arrangements, and even reducible to mathematical formulæ, and we know that dry mathematical statements are the nearest approach possible to the eternal verities. So we will start with the proposition that pictorial composition is the coherent expression of pictorial truth, standing in the same relation to graphic art that grammar does to language. We may, indeed, contrive to express our meaning by uncouth sentences or even by grimaces and noises, and we may also utter polished phrases conveying no particular meaning, but these facts do not weigh against the general necessity for good forms of expression.

The eye receives, as well stated pictorial truths, im-

pressions conveyed according to definite rules of *contrast* governed by *balance* and resulting in *unity*. A single apple is interesting in contrast with something else for a background. It would not be interesting if all around it was apple, indefinite apple. But the single apple hardly forms a composition. It has unity, it is true, but only that of the undivided. There are no parts to interest with their mutual relations: so a mere glance is all that it can claim. Two apples, just alike, are much more entertaining. One is compared with the other, they are equal, they are spaced equally against the background, they balance, they are in unity of exact similarity, they are irreproachable. Why, then, does the eye soon become as weary of them as we are of "*The Heavenly Twins*?" They lack the chief element of interest, mutual contrast, that unlikeness which goes near the danger-line of discord, yet is brought back and harmonized by some common element of likeness. Alike, yet not alike, similar, yet unequal, such is the law of contrast that makes the unity of lovers so much more interesting than the likeness of twins. We note the same with the single post, the twin posts united by a lintel, and the enhanced interest given by setting them in perspective, or by making one shorter and letting the lintel become a sloping roof, thereby bringing in additional elements of contrast, kept in harmony by the elements common to both.

Radiation is a principle of widest extent in both natural and ornamental plans. Throughout the mineral, vegetable, and lower animal worlds it directs the organization of crystal, flower, and sea star. It represents the energy of the sun, the source of light and of physical existence, and on radiating lines move the centripetal forces which bind the universe of worlds together. Pictorial construction may follow various plans, horizontal or upright bands, diagonal or curved forms, for its chief masses, yet the radiating principle, or, as I prefer to call it here, the principle of convergence, is rarely absent, and frequently forms the whole skeleton of the picture. All perspective views and vistas, like streets and ravines, are based upon converging lines. Such may have the lines actually expressed, forming the most powerful means in the anatomy of the picture for conducting the eye to a focal point. More pleasing is the curved convergence of a country road or winding beach. The lines of convergence are often latent, not expressed, but just as powerfully felt. It is of great interest and value to trace this principle in the figure compositions of the great masters, and to discover the order with which the apparently careless crowds are placed, both in ground plan and perspective, so that the eye will be led to the figure of central importance.

There are thousands of pictures made on the idea of two opposing masses with an opening between. Though the arrangement is easily effective, yet it is always in danger of looking stiff and set, like the conventional wings and back scenes at the theatre.

Good composition will always show a predominance of one kind of line, one kind of mass, the value of which may be greatly enhanced by a contrasting form in harmonious combination. The Triumphal Arch of Titus has stood for nearly 2000 years as the best model for similar constructions, as well as mantels and doorways, the world over. Simply a well-proportioned rectilinear mass pierced by an opening, arched to support the weight above, and (incidentally, perhaps, but beautifully enough to form a reason for being) ornamenting the mass by its contrasting line.

The eye is caught by salient points, and it is of great importance that the lines connecting these (which the eye feels, although they are not expressed) should fall into agreeable forms. You will find this principle observed in all well-composed pictures.

Dark spots against light are the rule out of doors; the reverse, or "Rembrandt" idea, being most available for interior effects.

There is a horizontal arrangement which has been very popular of late years, flowers, etc., being strung out and named with such fetching titles as "a yard of pansies." This is a good decorative idea when not abused.

If the objects to form a picture are all massed on one side or down at the bottom, balance is lost and unity with it. Balance may be attained, however, by a small telling object opposed to a large mass, on the principle of the small weight at the end of the long steelyard arm balancing the heavy one on the short arm. The eye mediates between the two and accepts the centre of gravity as a focus. A common error in photography is leaving too much blank sky above a landscape.

Sometimes we find a square composition in a round frame. This never works. Curve goes in curve, and curve will go in rectangles, but rectangles are uncomfortable when forced inside of curves. For this reason: tangency, springing out from the main line by gradual change from straight to curve, is a law of natural growth, giving both strength and grace. But the abrupt change from curve to straight line is unnatural, ungraceful, and weak.

Including too much with wide-angle lenses is another pictorial error. Photography is capable of making or of marring in this and in a dozen other ways.

The association of integrity with uprightness is no mere figure of speech. The piers of the Brooklyn Bridge carry the enormous weight of steel cables and loaded roadways as easily as a fence-post sustains a cobweb. Their form is in the highest degree dignified and impressive, declaring in the strongest terms that the law of gravitation will hold them in place after the mountains themselves are degraded. Horizontal and vertical lines give stability and repose; on these the eye rests. Oblique lines are elements of unrest, and should be used to conduct the eye to a point of repose. For this reason lines leading out of the

picture are bad, and, if possible, should be avoided. The horizontal line being a line of repose, should only cross the picture, unbroken, at the horizon or distant limit of the scene.

We must be careful of our accessory figures, and not commit the fault seen in the slide now shown. Here the interest is evenly divided between the boat and figures and the beautiful landscape. The figures are too important for mere accessories; and the landscape setting is altogether too much for a mere background. As we cannot get rid of the boat and figures from our negative, the only thing to be done to preserve unity is to sacrifice the greater part of the landscape, leaving only enough to be subordinate to the human element. This might have been obviated by a little forethought in making the camera shot. How many inartistic things we see perpetrated in this way, such as the tramp "artist's" views of houses with the inmates all stuck out in front staring at the camera. When we are photographing the principal business street of a town it is not necessary to call out all the prominent citizens to form a foreground.

We should be sure of our subject, and then get it up into the position of honor; where it will be estimated for something of value. Turner is said to have sometimes diminished subordinate objects in order to give greater importance to his main feature. Photography can hardly do this, even if it were desirable, but by judicious contriving it can usually get things in artistic shape. In the studio the artist can pose his subjects and compose his picture. Out of doors he can arrange things only to a very limited extent in the near foreground. Here he must search carefully for the effective point of view, and wait for the artistic moment of light and shadow.

One should not imagine that the setting upon a pedestal alone confers dignity. The subject must be worthy of the honor; otherwise an anti-climax is produced.

Good art discovers and develops the characteristics of its subject along orderly and harmonious lines, carrying the interest unmistakably to its strongest feature. Good art feels its own capabilities and recognizes its limitations. When Leland T. Powers impersonates Uriah Heep, the characterization impresses us as in every way admirable. He knows his subject, and he knows his field of work. He is a success. When some barn-stormer essays Hamlet we feel, as he "tears passion to tatters," that an artistic crime is being perpetrated.

Few writers can produce grand epic poems. Few painters can handle heroic subjects. The majority must develop the possibilities of the idyl, the pastoral, and the genre.

The photographer need not feel beneath Raphael, if he knows and applies his art as well. After all is said, it is the doing rather than the deed that makes us great.

Everything, both animate and inanimate, has its characteristic expression. Did you ever catch a building looking at you? I have often been watched in the most inquisitive manner by some old farmhouse until I could fancy it possessed personality, and was making comments on all passers-by. And again, at night, I have been glared at by a house in a highly unpleasant and cat-like manner.

Repose, majestic calm, is the great characteristic of the architecture of ancient Egypt and Greece. The predominance of horizontal lines is marked in all their temple constructions. The race with the oblique eyes carried something of a smile into the upcurved roofs of their temples and pagodas. And we find that the gently sloping hill-sides make the term "smiling valley" entirely appropriate. Gothic architecture, with its steep pitched roof-lines, becomes grave and solemn; and the grandeur of the mountain peaks, rising above the solemn pines, is thoroughly removed from levity. The sense of sublimity is aroused as the steeps approach the perpendicular, and we begin to feel our insignificance when hemmed in between rocky walls thousands of feet in height. The awe-inspiring effect of many of Doré's weird compositions is due to the pushing of this principle to an ideal exaggeration.

When we behold the "beetling crags" and "frowning battlements" overhanging our heads we realize an impression of savageness, and know that Nature has her terrible moods; that her bosom bears the potency of destruction, as well as blessing, for her children; and that her unchained elemental forces may, in a few brief moments, consume the fairest works of man.

A lecture without some allusion to Japan is not to be taken patiently to-day. Her ancient religion may be dying, but her beautiful temples still stand and attract pilgrims from the shores of the West. Her ancient arts are said to be decaying before the commercial spirit of these same shores. In the smoke of modern warfare her charming old superstitions have probably vanished. We, who love her tea and her bric-a-brac, cannot help a sigh for the ghosts that are no more. Photographers are sometimes troubled with "ghosts." There may be a nebulous light spot in a picture caused by an imperfect lens or a reflection, which is technically known as a "ghost." But more troublesome is the belief, some of the fraternity fondly cherish, that the camera cannot lie. Another ghost, which sometimes haunts the artist, is the idea that subjects worthy his brush or his camera can only be found in far-distant lands. When thus possessed, everything at home becomes "flat, stale, and unprofitable," and one is profoundly unhappy and envious of those who can voyage to some Asiatic seaport and, at the hazard of famine and fever and massacre, journey painfully across some burning desert and capture a band of Bedouins, dirt and all.

But we should not, therefore, imagine that we are without fields just as good for our best efforts. We dwellers in the wilds of Brooklyn find the voyage

across the East River shorter, safer, and less expensive than the trip to the Orient; and there is no region on the planet more crowded with interest of every conceivable sort than the coasts and lands of "Gotham." Being the most cosmopolitan huddle in the world, if one wishes a foreign flavor, rich with all the tints, and redolent of all the spices and other odors of the old world, let him step into such a spot as the lamented Mulberry Bend. Not long ago, an art critic, in his smart strictures upon the pictures in one of the Fall Exhibitions, denounced the subjects painted by a man, the least of whose works is a thing worthy of reverential study, as "insolently commonplace." Dismissing the common-place insolence of such remarks as rather an impious criticism on the Creator, who permits the same glorious sunlight, the same harmonies of color, to play alike on palace and potato field, we may well consider whether the revelation of the beauty of familiar things is not one of the highest of artistic missions. This is one of the functions peculiarly within the province of photography.

We go heedlessly to and from our business, absorbed in schemes, or reading the delectable crimes and scandals in the daily papers, never seeing the picturesqueness of the old mill-dam, never realizing the wonderful growth going on among the green things, never feeling the delicate contrasts and blendings of soft and rough texture and warm and cool tints, as we whirl past on the rail. Then, as we hustle along the street, we notice naught of joyous young life, still untouched by care, but hurry on, intent only on preserving our anatomy from the street cars, and getting as quickly as possible to our daily grind. But, if art is our vocation, we ought always to be on the alert for the bits and scraps by the wayside.

However, everyone to his taste, and if one's bent is toward the far-away and romantic, let him, by all means, follow the wedding journey of Lalla Rookh until it brings him to the palace of the Prince.

We often hear the expression "unnatural color." There is no such thing as an unnatural color. All conceivable tints exist in the solar beam, ready to be selected from the myriad surfaces around us, each of which is really a mirror for certain rays and a transmitter or extinguisher of other rays. It cannot be said that any object is always of one particular hue. Color varies from hour to hour, under the influence of the cool light of dawn, the glare of noon, the gray of cloud, the flush of eve, the pallid splendor of moonlight.

The atmosphere, that wonderful ocean, at whose bottom we crawl about, the most indispensable of all the requisites of life, the most abundant, the only one which is free, and the one which, apparently, is the least valued or considered, this life-giving medium of communication between the heavens and the earth, is also the great composer of Nature's color harmonies. The atmosphere takes the crude and discordant tints, picked out from the sunlight by earth, rocks, water, vegetation, and tones them here, softens them by reflection there, hangs transparent veils through vistas and other distances, and in every way acts the part of the most consummate painter. Without this magical influence, so familiar that we rarely stop to consider its wonderful beauty, Nature would present but the baldest and harshest aspect. With a blinding burst the first rays of morning would shoot across the horizon, succeeding inky blackness without one instant of mediating twilight. The landscape would be discovered in a few hard tints of red and yellow with wastes of leaden gray earth and stygian waters lighted only by a metallic reflection of the fiery orb from the waveless surface. The sky would be always black, every distance would show the same sharp-edged contrasts. Retiring to a shade to escape blistering on one side while freezing on the other, would be going into night again. A world without half-tones! The two ends of the scale only—no clouds, no mist, no delicate blue- or purple-gray distance, no verdure, no fresh water, no breeze—what a place of horror the planet would become without this atmosphere?

It is just a lack of appreciation of what the atmosphere is and does that makes so many pictures unnatural and unpleasant in effect. All colors are natural. The same object may, under various circumstances, reflect every possible hue. It is in the painter's combinations that the unnatural so often results. Could one paint with vibrating ether and living flame he might think of successfully imitating Nature. As it is, the painter can only translate Nature many degrees lower in key, with pigments which are but ashes, the oxides or cinders of earth's elements. Small wonder that he sometimes makes *mesalliances* of color, putting together what God has kept asunder.

There is a recent movement in painting which calls itself impressionism. It claims to render truths of atmosphere and vibratory effects of light as nothing else has ever done. I think it does. And it has occurred to me as a good way (while the fashion lasts) in which to utilize slides spoiled from lack of focus or other accident. The impressionist painter of this school analyzes the color rays, and counts drawing, depth, harmony, beauty, and everything else well lost if only vibration (by which he seems to mean doing violence to the optic nerve) is secured. He tells you that his pictures are painted to produce this magical effect at a certain distance, at which "they come together." But, setting aside fadism, there is a true impressionism which aims at the grand truth instead of the little, and which is of the highest importance for artists of all ranks to understand. Turner was, in many ways, the first true impressionist, as distinguished from the mere plodder over details in landscape. He was the first painter to thoroughly render all atmospheric phenomena.

In the morning of life we set out fresh and innocent, bravely riding upon ignorance. We accept the

smaller truths that the rose is red, the grass green, etc. The larger truths of atmosphere and space and the mutual relations of things are beyond us, as we play with our brightly tinted toys. We have not yet learned to appreciate the promise of the first bright days of spring. An hour of time is beyond comprehension. Life goes as a sparkling stream flowing among the gaily tinted banks of a royal park. A few days pass, and we have forgotten that the grass was not always green, and the calves were not always grazing and gambolling. A gaudy picture book pleases us far more than the works of genius. A passing shower, a trifling grief, annihilates us. We have as yet no sense of proportion, no deductions from past experience to help us over in the future. We live only in a moment, we see only a point at a time.

So it is at the outset of the study of art. It requires time and exercise, and the guidance of the wisdom of the past to open our eyes and enable us to see the general, the broad truth instead of the special, the isolated fact, the merely local color, the one detail at a time.

Considered as an attempt to instruct, my fragmentary essay this evening will be of little value. I have touched but a few of the points included in my subject, leaving unmentioned many of equal importance. My aim has been to suggest to my photographic friends, if any of them have not realized it, the great value of art principles in their work, and I particularly recommend the study of antique sculpture for developing appreciation of form, and the great masters of painting—the Dutch, the English and modern French —for landscape, and the whole range of figure painters from the early fifteenth century to the present, and especially Rembrandt and Velasquez, the two greatest masters of opposite styles, for ideas in portraiture.

"Life is short and art is long." Whatever the artist does, he should do with sincerity. Whether professional or amateur, he should respect his art too much to consider it a mere pastime, and whether he can follow its service far or not, let him be faithful to that service, and he will help the material world in its progress toward the ideal.

I wish to see the greatest possible art value put into stereopticon work. In our schools the idea is carried into practice that every exercise in every branch should be a lesson in language. I will make the plea that every lecture illustrated by lantern pictures should also be a lesson in art.

The first manifestation of the spirit of God in the material world was the creation of light. We are told that the rainbow, the revelation of the seven color elements of light, was set in the heavens as a sign of divine care for man's development. The growth of the ages, the generosity of the Almighty, is behind the arts employing the sunbeam and its seven children.

Let us, then, realize the lofty mission of our work, and remember not to lose sight of the spirit in the eternal form, "the letter which killeth," but to seek and express the broad, the grand truths of Nature in all art.

[NOTE. This report hardly does justice to Mr. Marshall's lecture, which was illustrated by many lantern slides, giving points and significance to his remarks and bringing home to the audience the things to be sought for and avoided in making pictures. It has been necessary, too, to omit a considerable part of the lecture, which would not be intelligible without the illustrations which accompanied it. The Society showed its appreciation of Mr. Marshall's lecture by voting him its thanks.—EDITOR W. P. M.]

EDITOR'S TABLE.

THE WASHINGTON (D. C.) CAMERA CLUB announces its second annual exhibition, which will be held at the Assembly Hall of the Cosmos Club, May 26th to 29th inclusive. In connection with the exhibition the Club proposes to inaugurate an Art Photographic Salon which it is hoped will encourage those who possess artistic feeling and are striving to produce pictures by photography. The effort of the Club is most commendable and deserves the support of all earnest photographers. Full particulars may be had from the Secretary of the Camera Club of the C. Bi. C., 409 Fifteenth Street, Washington, D. C.

Penrose's Process Work is now published by PERCY LUND & Co , Bradford, Eng., under the title *Process Work and the Printer*. The first number of the new series is of a more convenient size than the old series, and is well illustrated.

IOWA photographers should not forget or let anything prevent their attendance at their State Convention at Des Moines, May 5th, 6th, and 7th. An excellent display of photographic work is assured, also other valuable features which will well repay those who support the affair by their presence and help.

In a recent letter the WALPOLE CHEMICAL CO., of Walpole, Mass., state that, by a recent canvass they ascertained that every photographer in the city of Boston uses Walpole Hypo-soda and Sulphite of Soda. This fact is a remarkable proof of the quality of these specialties, which we ourselves have used since their first appearance.

A matter of surprise during the canvas of photographers mentioned was the small number of studio workers using hydrometers to standardiez their various solutions. Undoubtedly the hydrometer, as well as the thermometer, is one of the most useful adjuncts to successful practice. Every photographer should familiarize himself with the use of both and use them all the time.

Useful Information For You is the title of an excellent little leaflet issued by the WALPOLE CHEMICAL CO., Walpole, Mass. It is a little helper which every photographer should have at hand for reference. Copies may be had on application to the WALPOLE CO. at the address given.

MR. H. C. VOORHEES, Meriden, Conn., writes: "I find your MAGAZINE of great assistance to me, gaining many useful points therefrom in operating, as well as in the general practice of our profession. Your *Burnet's Essays*, *Photographics*, *Quarter Century*, and many *Mosaics* are also in my library, and are most useful. I find that reading must be applied in practice to make it useful.

DAILY exhibitions of photographs in natural colors are now given by J. B. COLT & CO., at their uptown branch, 59 Fifth Avenue, New York. The views, as well as the new triple stereopticon used for their projection, are the practical outcome of the work of Mr. R. D. GRAY in color photography. Over 300 subjects are now available by this process, comprising scenes in our own country and abroad. All who can should see these exhibitions, which are given free to visitors calling at Messrs. COLT'S store between 3 and 6 P.M.

EVERYBODY who is at all interested in photo-mechanical work should send for the new catalogue just issued by Messrs. JOHN ROYLE & SONS, Paterson, N. J. It is a model of its kind, full of valuable information about the mechanical equipment of the process shop, with illustrations on every page. Among the many specialities described in its 84 pages are the Royle routers, cutters, and sundries, instructions for making belts, incandescent lamp brackets, saw tables, saws, trimmers, rotary edgers, bevelling machines, drills, mounting slabs, shoot-boards, facing lathes, hand motors, bed-plates, and type-high gauges, and some interesting tables. Copies of the catalogue may be had on application to Messrs. ROYLE.

A BEAUTIFUL and attractive advertisement which should not be overlooked is that of Mr. PETER DILLER. The business possibilities of the Klay Multiplying Plate-holder have not yet been appreciated as they deserve; there is no reason whatever why multiple pictures should not prove a very profitable novelty in many galleries at present badly in need of the stimulus of novelty and more business.

TWO notable engravings (Japan proofs, signed) have been sent us by the noted Arctic painter, Mr. ALBERT OPERTI. The first is entitled "Farewell." It is from Mr. Operti's original painting representing Dr. Kane and companions bidding farewell to the brig "Advance," second Grinnell Expedition in search of Sir John Franklin, 1853 to 1855. The original oil painting is in possession of Kane Lodge, No. 454, F. and A. M., New York, and the engraving is published by permission. It bears the autograph of the survivor, Brother JOHN WALL WILSON, late U. S. N. The second picture is a companion picture, and is called "Found." It is of Melville finding the remains of Captain De Long on the Lena Delta, Siberia, Jeannette Exhibition, 1879. It is also from the original oil painting (published by permission), and bears the autograph of the survivor, Engineer-in-Chief of the U. S. Navy, GEORGE W. MELVILLE.

Both pictures were painted under the personal supervision of the survivors.

This pair may be had for $5. Three other pictures by Mr. OPERTI are "The Farthest North," "Rescue of the Greely Party," and "The Last Franklin Search by Lieutenant Schwatka." These are the only historical Arctic pictures extant.

Mr. OPERTI may be addressed at 150 West 35th Street, N. Y. The publisher of the pictures is H. W. PENOYAR, 349 West 24th Street, N. Y.

MR. SPENCER JUDD, Sewanee, Tenn., favors us with some beautiful examples of his portrait work made at his temporary studio in San Diego, Cal. Taking a holiday of considerable length in that sunny region, and desiring not to be idle, he has leased the "Elite" studio and is producing beautiful work at the very satisfactory price of $5.00 per dozen for cabinets.

Anderson's Photo-mechanical Processes and Guide to Color Work. By MACFARLANE ANDERSON. E. & H. T. ANTHONY & Co., publishers, 591 Broadway, New York. This long-looked-for work will be welcomed by those who are interested in color work. Dark-room work, studio operations, the various photo-lithographic, collotype, and etching processes are treated to the finish, but especial care —the freshest part of the work—is given to three-color work. Various illustrations, full page, are supplied, all climaxed by the author's Phuso-chrome Chart, as already published in Anthony's *Bulletin*. The avidity with which all knowledge upon these growing topics is sought for will cause a ready sale for this new work. The publishers have shown good judgment in the selection of the size of the volume. It is 5¼ x 7 inches, with flexible morocco cover and flap, so as to be most convenient for the pocket of the operator; thus enabling him to make a near companion of it for ready reference. It contains 182 pages and is finely printed. The price is $5.

THE Thursday-morning lectures of Mr. J. FREDERICK HOPKINS in the assembly hall of the Brooklyn Institute took place on the 13th, 20th, and 27th of February and were a great success. His topics were "Nuremberg the Ancient—a Home of Art and Song; "Wood Engraving and the Reproduction of Drawings in Lines;" and "Reproduction in Half-tone and the Printing in Color." The course was a fine success.

A MONEY-MAKING suggestion is offered in the advertisement of Messrs. ALLEN BROS., in this issue of the MAGAZINE. Those who feel the need of a profitable pointer should not neglect this opportunity.

The Commercial Travellers' Home Magazine, of Binghamton, N. Y., has shortened its name to *The Home Magazine*, and its May number will have a handsome new cover designed by Claude Fayette Bragdon. The change has been in contemplation for some time, but an unfounded rumor that a magazine with a similar name, formerly edited by Mrs. JOHN A. LOGAN, was to be revived at Washington, caused the delay. There in only one *Home Magazine*, therefore, and it is published at Binghamton.

AMONG the prize-winners at the Indiana Convention we note with pleasure the names of D. GILBERT (Frankfort), C. R. REEVES (Anderson), H. C. STEPHENS (Rushville), and G. W. LEAS (Peru) We congratulate these gentlemen on the recognition they have won from their Association.

MR. C. A. SCHINDLER, West Hoboken, N. J., whose accessories and studio furnishings are in use in many leading studios, has now ready a revised and reduced price list. Mr. SCHINDLER offers special inducements in prices to photographers who will purchase direct from him, cash with order. His list should be consulted.

A VERY attractive index list of the portraits published in *Celebrities* has been issued by the publishers of this well-known magazine, 25 West 24th Street, New York, and may be had on application to them.

WE have in type for early publication interesting papers by Dr. J. W. EDER, JULES FEURST, and others, dealing with the modern developers, lenses, etc. These will be given to our readers as soon as possible.

MESSRS. LASSWELL & MILLER, Peoria, Ill., send us a remarkable collection of baby photographs printed on a cabinet card. Some hundreds of bright children are grouped in charming confusion in the picture. It was issued as an advertising souvenir, a prize of one dozen cabinets (value $5) being offered to all who named the correct number of babies included on the card. We are informed that so far no one has solved the puzzle.

MR. G. GENNERT, 24 East 13th Street, New York, has published a very useful handbook on *Modern Developers*, with formulæ and other information useful to the dark-room worker. Copies may be had free of charge to our readers who will apply to Mr. GENNERT, enclosing two cents for postage.

THE PHILADELPHIA PHOTOGRAPHIC SOCIETY begins a new year in its existence with a membership of 206 and a good balance in its treasury. It is the oldest of the American societies, and is full of life and activity.

Sensitized Papers, by Dr. H. C. STIEFEL, is one of the handiest printer's manuals at present available. It gives detailed instructions for using all the new papers as well as for the old. $1, post free to any address.

WE have received a pamphlet entitled a *Note on a Photographic Method of Determining the Complete Motion of a Gun During Recoil*, by Dr. ALBERT CUSHING CREHORE, Assistant Professor of Physics, Dartmouth College, and Dr. GEORGE OWEN SQUIER, First Lieutenant, Third Artillery, U. S. A. It details the ingenious methods of the authors for the purpose named, and is supplied with very interesting illustrations and drawings. The work is reprinted from the *Journal of the United States Artillery*, and is issued from the Artillery School Press, Fort Monroe, Virginia.

"THE Theory of the Screen in the Photo-mechanical Process" is the title of an elaborate article sent us (reprinted from the *Transactions of the Royal Society of Canada*) by the author, Surveyor-General E. DEVILLE. It is the most exhaustive offering yet made in the literature of this great mystery—the screen. The many problems and diagrams accompanying place it above the ordinary reader, but a perusal of the work convinces us of the genius and practical knowledge of the writer. The chapters on "Copying Through Vignetted Screens" and on "Diaphragms" are especially helpful. The whole work should be had by every process worker. It is for sale by Messrs. DURIE & SON, Ottawa, and THE COPP-CLARK CO., Toronto, Canada.

Lehrbuch der Praktischen Photographie, by Dr. A. MIETHE. Published by W. Knapp, Halle a.s., Germany. 1896. 430 pp., illust.

La Photographie Moderne, by A. LONDE. Second edition; revised and enlarged; 788 pp, with 346 illustrations, including 4 very interesting plates by the half-tone, collotype, photogravure, and grain processes of the same subject for comparison. Published by G. Masson, Paris, 1896.

These two weighty publications have just been received from their several publishers. They are highly illustrated, thoroughly well written, and practical. The second book rather takes the lead in this latter matter, and is more comprehensive than the first; yet both will serve as excellent text-books and helpers to those who are able to read the special language in which they are printed.

Mosaics, 1896.—Mr. A. R. NEWELL, Rockville, Conn., writes: "I find *Mosaics* very complete, full of information touching upon every topic met with by the practical photographer." A very few copies of *Mosaics* now remain unsold, and those desiring a copy should order at once. Paper covers, 50 cents, post free to any address.

How to Make Photographs.—A new enlarged and revised edition of this popular amateur handbook has been published by Messrs. E. & H. T. ANTHONY & Co., New York. This is the fifth edition of the work. It has been carefully edited by Mr. FREDERICK J. HARRISON. It is neatly printed and most abundantly illustrated with cuts of apparatus. An aristo-platino photograph is bound in before and after the text.

Messrs. ANTHONY & Co. are distributing free samples of *Metacarbol chavant*, a new developer. Those who wish to be up-to-date should send for a sample package.

THE TINTOMETER.—An instrument for the analysis, measuring, and recording of colors. Two interesting pamphlets describing this remarkable instrument have just been published by the American agent, E. B. MEYROWITZ, 104 East Twenty-third Street, New York. Every color worker should apply for copies, which may be had from Mr. MEYROWITZ for 15 cents each.

PHOTOGRAPHERS preparing work for the coming conventions will find much information that will help them to secure prizes in *Mosaics*, 1896, which is illustrated with pictures by the prize-takers of the 1895 Conventions, and contains practical articles by the prize-winners. Every page and every illustration will be found useful. Secure a copy before the edition is exhausted. Paper covers, 50 cents, post free. Two copies of the library edition may yet be had. $1 each, post free.

THE BRADLEY CALENDAR FOR 1896, issued by the INLAND PRINTER CO., of Chicago, though late, is one of the most artistic of the year. It is of the celebrated poster order and very decorative.

Radiography.—Mr. JOHN CARBUTT, Wayne Junction, Philadelphia, has favored us with a Radiograph of a living hand of superior excellence, recently made, using one of his X-Ray plates by Prof. A. W. WOODSPEED, of the University of Pennsylvania. The exposure was *one* minute. Comparing this time with the hour and time at first required for an exposure will show what wondrous advances Mr. CARBUTT has made in the production of the X-Ray plates. The scientists in all directions acknowledge his invaluable services to them, to scientific research, and to humanity.

Nadar. *Paris.*

ACTORS AT THE COMÉDIE-FRANCAISE.

Monsieur Baillet.
Monsieur Paul Mounet.
Monsieur Paul Mounet.
Monsieur Albert Lambert fils.

DOLCE FAR NIENTE.

June

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

The Ground-Glass confesses its inability at the present time to reflect upon much but the impending Convention at Celoron, Lake Chautauqua, N. Y., which is near Jamestown, which is neighbor to the works of the American Aristotype Company, and which takes place June 22d to 27th inclusive. How to get there; how to help while there; how to learn all there is to learn—how to *feel* the Convention in fact—is what now occupies the earnest thought of *The Ground-Glass.*

Such deep mental root has the anticipation of this coming meet of the craft taken that *The Ground-Glass* continually dreams about it. One night it seemed to be in the alcoves with the pictures. Some strange sights were had there. They passed by, one after the other, with snap-shot rapidity and inexactitude. The judges were there, although they were invisible. Their talk could be followed, however, by the marks they put upon the exhibits, and *The Ground-Glass* followed their track, memorandum-book in hand. Several of the exhibitors were loitering near their exhibits. Of course, that was not allowable; but this is a dream, and they were only there invisibly. What was in their minds was invisible too; but it was made plain to *The Ground-Glass.*

One happy man appeared there with his hat on one side of his head; his hands were in his pockets, and he was standing on one foot, trying to look haughty and indifferent. He was a prize-winner. He deserved to be, for his photographs gave every evidence of honest, faithful endeavor. His positions were Burnetesque; his chiaroscuro was Ruskinian; his technique was absolutely Hardwichien—and he won a prize. There he stood, humming to himself, lyrically (not satirically):

"I have built a monument than bronze more lasting,
Soaring more high than regal pyramids,
Which nor the stealthy gnawing of the rain-drop,
Nor the vain rush of Boreas shall destroy;
Nor shall it pass away with the unnumbered
Series of ages and the flight of time."

Close after stood another, dreamed *The Ground-Glass.* His face was earnest; his work was above the average, but the jury found him short of "points." He did not look disconsolate, disappointed, nor ashamed. It was his first attempt at prize-nibbling, so he was yet full of hope. With care he again and again examined his exhibit and compared his work with that of the more fortunate ones, humming as he went over all.

"Tree-like grows up, though unperceived, increases (one's) fame."

The Ground-Glass fell in love with this

true philosopher; went to him; gave him some points which had been gathered from experience, and encouraged him.

An angrier man now took the mind of *The Ground-Glass*. He was standing in the track, in front of his exhibit, alone, imprecating the judges. He was, if anything, said he, "one of the original photographers." He "had never read nothin' about art," and as for photographic magazines and books, they are no good anyway. The stock-house sends its Monthly, and that's enough. Following after others is all wrong. *This* work is original—individual." Well, his work was "individual." "It represented mythological characters," he said. His "Nydia" (the blind girl of Pompeii) was a fair example of his "individuality." She was fleeing from a group of burning houses (in the background), with torch in hand, and her eyes wildly staring; her hair was floating—streaming—in the air, but tied with a string! She seemed to pass from the dream then—she grew too realistic. Turning to the unhappy man, *The Ground-Glass* read to him from its memorandum book this:

> "Nought is too high for the daring of mortals;
> Heav'n's very self in our folly we storm.
> Never is Jove, through our guilty aspiring,
> Suffered to lay down the bolt we provoke."

Watch out for yourself, old fellow.

Now *The Ground-Glass* turned—not in bed, but to the other side of the alcove, and there stood another. He was not "in it"—*i. e.*, not in the track of the judges. He was an aspirant, however. He was "a specialist in photography." His "direction" (from the muses, it is supposed,) was "The Nude in Art." His work was brilliant in conception, elaborate in design, and his compositions were "original." He portrayed *Venus* with a balancing pole in her hands, swinging upon a vine sagging between two lofty trees whose tops were in the clouds. She was nude, and yet she was clothed in modesty, for her back was turned. (Probably the vine twisted during the exposure.)

Pyrrha appeared next. She stood in a "pleasant cave" all right. "In wreaths" her "golden hair" hung about her shoulders, and that was all she was clothed with—"plain in thy neatness"—and the more 's the pity.

Chloe clinging to her mother, in a panic, was managed so well that her knees and her heart were out of focus, so as to follow realistically the assertion of the bard that they "one tremble" (from the panic). But both ladies were unclad. *The Ground-Glass* considers that sort of draping unnecessary and bad, and that such is not required of photography. This was stated to the man off the track, whereupon he grew very angry. At this time the memorandum-book was again brought out, and from it to him these lines from the ode of Horace to Mæcenas ("in execration of garlic") were read:

> "If e'er a parricide with hand accursed
> Hath cut a father's venerable throat,
> Hemlock's too mild a poison—give him garlic;
> O the strong stomachs of your country clowns."

The specialist thereupon struck wickedly at *The Ground-Glass*, and would have everlastingly smashed it but for the reason that the dream was disturbed just then. Heartily wished *The Ground-Glass* that some friend might put his arms around the neck of some of the ambitious, uncultivated ones and *coax* them not to do such things in the name of photography.

When *The Ground-Glass* came back to life again it discovered that the memorandum-book it held in its dream was a volume of Lytton's *Odes of Horace* which had kept it reading late the night before.

Speaking of the invisible reminds *The Ground-Glass* of the wonderful interest

which yet holds in X-ray photography. Many of our most popular magazines have published articles pertaining to it, and the newspapers from all quarters report the experiments of the Radiographers. It is predicted that we shall soon see the shape of the muscles, tendons, veins, and arteries, and the variations in density of structure of these parts, and thus find out the seat and area of disease. "Many things that are hidden shall now be revealed."

If there is one thing above another which *The Ground-Glass* tries to acquire it is sympathy with the earnest photographer, *i. e.*, to understand him; to show what he experiences and feels in his best efforts, and to help bring him into harmony with the principles which help him to do his best. Help in this comes from the friendly correspondence that goes on continually, and opportunity for exercise arises when criticism is asked for. Sometimes the sympathy is wasted, and sometimes it falls upon good ground, and brings out the right spirit. Of the latter here is a case: The admirable work of an outdoor photographer was criticised according to his ability to bear; in his response he writes, viz.: "Accept my special thanks; what you say shall not be wasted, what you have pointed out gives me courage to go on, and I expect to show you much better work as the years go on. I see the advantage of "Care in little things."

Those who are privileged to inspect the master-photography to be exhibited at Celoron will have a fine opportunity of exercising what of sympathy there is within them. None of the pictures now ready for the great contest were *easily* made. They all represent untiring work—the devotion of genius. The careful lighting, the graceful arrangement of head and torso, arm, and leg, and foot, are all the outcome of wisely directed, and prolonged and repeated artistic endeavor.

The Ground-Glass expects to meet some at the exhibition who are so prejudiced against "these new-fangled ideas about photography" that they will not be able to get into sympathy with the best workers. This is a pity, but it is easy to understand why such men exist. Ignorance breeds indolence; indolence hatches prejudice, and the offspring of prejudice is—standstill, the finality of a lazy mind. Many such persons feel that it would be agreeable to become renowned and successful photographers if it did not subject them to the trouble of keeping apace with the principles and practices which would overthrow their prejudices. They are worse than machines.

The machine photographer is the one who lets his method dominate him—so much so that all he knows he can do through somebody else—by his method. But if he has more than this in him he will show his personality in his work—his fertility of resource—his character. His heads are not all posed in one direction. His elbows do not *all* rest upon a stand, nor does the tip of the further ear just barely show in every one of his busts. Nor will all of his subjects have that *set* expression which sprouts from the feelings of the photographer who *grinds* out his work.

The Ground-Glass begs pardon for one more reflection concerning the convention. We are all affected by our environment. We may get much stimulation from the atmosphere in which we are placed. The thoughts and ideas of others are always helpful, even though they come from those lower in the grade than we are. The ideas and thoughts of those who are above us, obtained by contact with them and by the inspection of their results, is, without question, stimulating. Now if we would excite the demand of the public for our work, we must use our powers to make it attractive.

We must occasionally breathe in the best atmosphere if we would prosper. We must go help make up the environment. Then growth for all will follow, each after his abilities and desires—after his kind—toward and to that improvement and perfectness which our art makes it possible to acquire, just as the natural atmosphere nourishes alike the mighty oak and the graceful rose-tree.

The Ground-Glass often feels a rosy blush upon its face when it reflects what it wants to appear as words of wisdom. It would break up entirely did it not have frequent assurances of sympathy from its readers. This would not be so if the members of our profession were all educated and trained as in other professions. (Our college is coming, and we must all suffer some while we wait.) In some of our institutions of learning it is the practice to publish articles "On the choice of a profession," which are prepared by students ten years after graduation and addressed to the undergraduate students. Before us is one such address by Dr. Louis F. Bishop, 30 West Thirty-sixth Street, N. Y., a Rutgers man, upon "Medicine as a profession." If from several of its pages the word "medicine" could be obliterated and photography written in lieu thereof it would make a complete lecture for our craft, so elevated and excellent, and apropos are the admonitions. Dr. Bishop argues that one's tastes for his chosen profession should be strong enough to regard it as a privilege to gratify them —to "whom no sacrifice appears too great which leads to greater perfection." He believes that all earnest ones should contribute something substantial to the advancement of learning; to be really great, love for the work should exist, and the production of good work should occupy the thoughts first and all the time and far above the wish for fame. These are lofty sentiments.

PHOTOGRAPHIC CHEMICALS AND THE HYDROMETER.

BY A. B. SMITH,
Chemist, Walpole Chemical Company's Laboratory.

Now that the dry season is coming along, a few suggestions on photographic chemicals and their uses may not be out of place.

Every photographer, amateur and professional, has at one time or another experienced the annoyance of finding that the strength of his chemicals has become an unknown quantity by having effloresced, or as some would say, dried out; or perhaps, in the case of sulphite of soda, the bottle will be apparently half full of water with a little of the salt lying on the bottom. Not knowing what else to do, the water is poured off, the developer made up with what remains, and when the plate is developed, with a poor negative as a result, the fault is laid at the door of the plate-maker; or perhaps the photographer blames himself for giving too little or too much time in exposing, not knowing that he has unconsciously used about twice the quantity of sulphite he intended, the sulphite in the bottle having parted with its water of crystallization, attaining thereby almost double its normal strength.

This does not apply to sulphite alone; there are many other chemicals that have the same property, while others lose their water of crystallization by drying off slowly, as in the case of copperas, blue vitriol, etc., leaving the dry, white, anhydrous salt; others again will absorb moisture, as in the case of carbonate of potassium.

TIME and money are often wasted by the want of a little chemical knowledge. Although many chemists are photographers, all photographers are not chemists.

The writer has found from experience that the best way to get uniform results, so far as the chemicals are concerned, is to make up stock solutions of each one, using the hydrometer in preference to scales in the preparation of all solutions, as no matter whether the chemicals have lost their water of crystallization or absorbed moisture, the strength of the solutions is always known and the same. A No. 1 Twaddle hydrometer and a glass cylinder graduated into cubic centimetres or ounces, costing but a few cents, are all that is required. Having once made a stock solution, say from good clear crystals of hyposulphite or sulphite of soda, in the usual way, by weight, and then taking its "specific gravity" or "degree Twaddle" with the hydrometer, the same strength can always be obtained by making solutions the same "degree Twaddle," no matter whether the salt has dried out, got wet, or from any other cause becomes an unknown quantity. The same rule will apply for all chemicals.

Some time ago the members of one of the leading photographic societies of Massachusetts had great trouble with their plates, or with their negatives not fixing out properly. The writer was asked if he could in any way explain the cause. Upon investigation it was found that the hypo-soda solution was made by weighing or measuring the amounts of hypo and water, putting the same into a jar, and drawing the solution from the bottom. This was where the trouble was found to be; the hypo being left to itself, formed a saturated solution at the bottom of the jar, which, when drawn off and used for fixing the plates, had formed a practically insoluble hyposulphite of silver on the plates. Had the solution been made as suggested above the hypo solution would have been above suspicion. Moral: Get and use a No. 1 Twaddle hydrometer.

HOW TO MAKE DUPLICATE NEGATIVES DIRECT.

BY G. BALAGNY.

AFTER a long series of trials, including all the known methods for making direct duplicate negatives (without the use of diapositives), I have settled down on that of two exposures as the best. By this method, known in principle for some time past, a positive is first made on a bromide of silver gelatine plate, then obliterated by chemical action and the remaining intact bromide of silver, after a second exposure, developed into a negative. Some 200 faultless duplicate negatives, made by me in this way, justify my assertion that by following exactly my directions any man may obtain good results.

The positive is best made in the camera. The exposure must be full, so that the light may well penetrate into the bromide of silver film.

A hydroquinone developer with plenty of bromide is used:

Water	1000 parts.
Sulphite of Soda	250 "
Hydroquinone	20 "

For use take:

75 parts of above stock solution.
75 parts of water.
50 parts of a 25 per cent. solution of carb. of soda.
20 parts of a 10 per cent. solution of bromide of potassium.
50 parts of 90 per cent. alcohol.

Development should be very slow (dish covered), so that the result may be a brilliant positive of pure whites and deep

blacks. Development must be continued until the deepest blacks have fully penetrated the film and the picture is plainly to be seen on the reverse side. This kind of development is the chief condition of success. After development wash thoroughly to remove all traces of developer.

The second exposure is now to be made. The plate is placed upon a mat black support (black paper, ebonite, etc.), a black mask is applied to prevent the entering of light through the glass edges, and the plate exposed by diffused open light for from 10 to 20 seconds. The white portions of the film, originally of a greenish shade, soon become grayish. This indicates sufficient exposure, and the plate is returned to the dark-room, superficially rinsed, and placed into the following bath:

Water	1000 parts.
Bichromate of Potash . .	10 "
Nitric Acid	20 "

This bath, compared with other formulas for this purpose, is very weak. But as a matter of fact a very small quantity of bichromate is sufficient to oxidize the silver of which the picture consists. This bath is to act until the positive picture has completely vanished, and only the bromide of silver, destined to form the negative, is left in the film.

Let me again repeat the main requisite for success: the thorough development of the positive. If this is neglected, then the lower strata of the film will still contain unchanged bromide of silver, which had not been exhausted in the formation of the positive, and which in the now following second development takes a part, forming a positive. A hybrid of a positive and a negative results. As soon as the bichromate bath has destroyed the positive picture, the plate is to be washed at once, and very thoroughly. Its surface should come as little as possible into contact with the hands, as in the following development spots and failing of the film would surely follow.

After thorough washing the negative is to be developed in a *very* clean dish. Paramidophenol (Rodinal) and hydroquinone, as used for negative development, may be applied. Before fixing the plate is bathed for five minutes in a 5 per cent. solution of chrome alum. (Free translation from *Bull. d. l. Soc. Franc. d. Ph.*)

SUGGESTIONS.

BY JOHN H. BATES.

Mosaics came to hand this year developed, crisp, and brilliant. I have been quite interested in Dr. Nicol's contention in favor of the combined bath. It has led me to run over a lot of prints that have accumulated during several years past. Here, for instance, I find an old Omega gelatine-chloride print made six or seven years ago. It was toned and fixed in the combined bath prepared by Bradfisch. Four or five large prints had first been toned in the solution, after which it was set away for two weeks, and then this print was toned. To-day, in spite of careless handling, it still looks bright and good. Here, too, are some Solio prints made soon after this paper was put upon the market. A number of them are faded, but others that were printed deeply, and thoroughly toned, still look quite fair. Here, again, are several gelatine prints toned and fixed separately that have faded. Some collodion prints treated in the same way show signs of deterioration. The best-preserved pictures of them all are collodion prints made on paper of my own coating when collodion pictures were first in the air.

My conclusion is that the combined bath is not so much inferior to a separate toning and fixing bath, provided the printing is sufficiently deep, and that the toning is carried as far as possible with a second fixing bath and fresh solution (never used to exhaustion) for every batch of prints.

I am sure the wash water should also be considered. When the country photographer uses water from the cistern, the probability is he will introduce sulphur into his prints, as such water is full of sulphur gathered from bituminous coal smoke. Therefore use good well water.

I have been very much pleased with the beautiful pictures scattered through *Mosaics*, which have not been without their suggestions. "Thought," for example, on page 222, by Mr. Morrison, is a charming bit of work, but does not the artist know that a woman never thinks when she has her hat on? What is she thinking about? Her gloves at home, or the cost of a new and more stylish hat? Surely there is thought on this face, but I venture a woman was never seen unconsciously with such an expression in such attire, or if she was it was so extreme an exception that the picture does not bring back what we know to be characteristic of woman in the circumstances. It is, in fact, just then that she cannot be photographed; her face is covered with smiles, her mind is intensely active, the features change rapidly under quick, kaleidoscopic intuitions. She is all animation without reflection, and all the more beautiful for that. Of course, if she belongs to the masculine sort—but that is not the woman we are talking about.

Mr. Bachrach notes the fact that there is an evident "falling off in the demand for photographic portraiture in late years." Well, that is perfectly natural, because photography, poor thing, has been dragged through the dust "in late years." Every man sets the standard by which he and his works are judged. If a photographer turns out pictures by the thousand at a few cents apiece, giving the impression that it is a mechanical business, people will come to esteem him and his art very lightly. There are many wealthy people, and well-to-do, who want beautiful pictures at almost any price. I have known an amateur to get the best prices for his work where the "professional" had scarcely a patron. The people knew the difference in the product. If the photographer wants to succeed, let him clean up his gallery and rearrange things. Let him dress well, and assume some dignity, get out less work, better work, and get higher prices.

Speaking of better work calls to mind our dear friend, Dr. Emerson, and his labored "Naturalistic Photography." He evidently has got an idea, but when he decries the laws of art he begins an attack on the foundation of things. "Free art," with wide room for individuality, with the circles that limit it to-day broken to-morrow, as genius has broken them again and again in the past, is still not so free that it is anarchistic. It has always been amenable to law, the same as literary taste, a fact which it is a waste of time to dispute. If Dr. Emerson has come to see in a new light and with a new interpretation, if he has burst the latest circle of art life and is about to carry the world forward into a wider sphere, let him demonstrate the fact, and then we will see whether he, too, is not amenable to the laws of art.

The first series of portrait studies by Falk having been exhausted a second (new) series is being prepared, and will be ready by June 1st. See advertisement elsewhere.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

(Continued from page 205.)

ADVANCED SERIES II.

In the last article families of colors, yellows, reds, and blues, from the student's series, were treated as tints, washes, and stipple. In this lesson we will utilize some of the colors given for an initiation into the little understood art of "breaking colors." It is the presence or absence of these broken colors that makes or mars the picture. Some students in art pursuits are charmed by color and others learn to worship form. Flaxman devoted his life to form, Turner became the champion of color. The lens, in the proper hands, secures for the photographic worker all that he can wish for form, in his delineation he can, therefore, devote his leisure hours to the study of color. That this subject will furnish food for thought is quite evident to the most careless observer of the productions in this line during the year past.

Dr. Joly may work a gratifying change when his system becomes marketable, but there must be a complete revolution ere long if any method proves lasting. The pursuit of art is not wholly a contest of eyesight. The brain must be largely employed if one would attain even a respectable position.

Earnest and continued effort, if rightly directed, will confer this need—mental stamina.

To supply our own needs within the narrow limits of the few and transient hours that we can call our own is the duty of the wise. Let each resolve then to do as much as this, and a gratifying improvement will be immediate.

Says a well-known writer of the "Art of the Future:" "Two tendencies, long rivals, will in the near future contend for supremacy, realism and romanticism. The world will demand something different from the *average quality*. The task of art in the coming century will be to exert over men that charm of variety which reality can no longer offer, and which the cultured taste cannot relinquish." Those who follow these lessons will have no difficulty in placing the writer among the romanticists. Another critic says: "Color is the centre of life in painting, and the nearer you come to *true color*, the nearer you come to greatness. It is only intense sympathy with Nature that enables one to fathom her secrets. Art is not the copying of Nature, it is the rendering of *occult* truths. Has the tri-color process revealed any of the hidden truths of the beautiful or the true at this writing?" Says Hamerton: "The true artist sees terrestrial things as so much splendor and gloom. As Turner advanced the world became for him only a succession of visions in castle, cloud, and mountain peak—they were, all of them, only what dreams were made of. His heart was behind the eyes that saw." Now the perfection of art, we may safely conclude, has been reached when a work attractive at first grows upon one the longer it is studied.

If we aim for this wished-for result in our work, the aim at least will be a noble one. With this short *conversazione* we will take up further research in color study. There is a correct use of color and a blundering use of it. Most of the process productions of the day are excellent specimens of "how *not* to use" it.

Take a sheet of Whatman's water-color paper, size same as hitherto used. Prepare a bit of thick cardboard, say three inches square, by ruling upon it a square one and

a half inches each way. Cut out this piece with a keen-pointed knife. Any number of squares, all the same size, can now be quickly lined with lead pencil by passing about the inside edges.

Mark a row one-half inch apart near the top and across the sheet. Letter the first square A, the next B, next C, D, and E. Wash this square A with the No. 1 yellow in your diamond, aureolin.

Rule a second row across the centre of sheet and mark square under A, F, and each of the others G, H, I, J, and wash the F square with No. 11 of the diamond, vermilion. Rule a third row at bottom of sheet and letter K, L, M, N, O. Wash in K square with cobalt blue of your diamond, No. 25.

Take some K color and some F color and mix a purple. Some of K and A and mix a green. Some of A and F and mix an orange.

Upon the right hand of sheet wash the square marked E with purple, square marked I with green, square marked O with orange.

Now, why E purple and not J or O? Because this would be a blundering use of color, which is to be avoided. The correct place is just there for the purple, and the place for the others as given. These secondary colors are complementary to those standing opposite on the left side of sheet, that is, they lend in juxtaposition, brightness, and vivacity to each other. Between these primary colors and their complementary colors we will place the "broken colors."

Mix some E with a bit of A, and wash the square marked D, you get a purple yellow. Mix for C more yellow and you get a warm purple. Mix for B more yellow still and you get a yellow purple. Now the eye must be trained to tell at sight the purple yellow and the yellow purple.

In second row. Mix some green with a bit of F or red, and wash the square marked I, you have a green red. Mix some green with red and you get warm green. Mix some red and a bit of green and get a broken red.

For third row. Mix some orange and bit of blue from K and get an orange gray for N. For M yet more blue and get warm gray. For L some blue and bit of orange and get broken blue. Now L, M, N, H, I, and E are the distance and mid-distance colors, that is, they all partake of the gray, as opposed to the crude primary colors often seen.

You have now a series of colors "broken," of yellow, red, and blue. For yellow, aureolin. It is a double nitrite of potassium and cobalt. It is a pure brilliant transparent color, which even in its palest tints is permanent. This yellow is the nearest to that found in the solar spectrum that we can employ. It is sometimes known as cobalt-yellow. It demands greatest care in grinding the ink, which should always be done upon a slab of marble or lithographic stone by another stone called a "muller;" by this method the color is not sullied by any metallic particles. It is important to keep this color free from degradation, as it gives the sunlight effect to the whole of your picture.

You use also vermilion. This color is a sulphide of mercury. It is also permanent. It also must be ground by the same stones, as metals change it. Especially does copper act in this manner. Ere long, instead of the deep rich red of English vermilion, the color upon the ink disk will be changed by the copper of the electro to a dirty brickish-brown, making it utterly useless to hope for any tasteful color combinations in the remainder of the work. The remedy is to silver- or nickel-plate the red electro if a large edition is wanted.

You use also a blue called cobalt. This is a mixture of alumina and phosphate of cobalt. It is a beautiful delicate pure blue. It gives your sky and water in the picture.

Now we come to a most important matter. The artisan now, it is supposed, has proved the plates, each color being allowed to become bone-dry before another was added, thereby giving a crisp, brilliant result. Partly closing the eyes, he asks what is the tone as a whole of my picture? Is it a warm, sunny, picture, or is it cold and gray in tone? What can I do to enhance its beauty? Here is the place for your gray to be added. A set-off from the original key-plate (which for register and other purposes should always be preserved) may be made with finely-powdered red chalk sifted upon the inked impression, which may then be pulled upon a sheet of grained zinc. The zinc may be grained by any of the methods extant—sand blast or chemical, it matters not. Upon the zinc a workman of artistic perception may now work upon the shadow side of clouds with a litho-crayon, soften the mountain bases, add misty effects in water, mellow the green of trees, and hover here and there with ever-ready pencil, until the crudity of the first picture has been greatly softened, thus you will increase the splendor and add to the gloom. The rule is to keep the whites precious in your picture. To make the sky an ærial echo of your view, and to modify and soften the cloud-reflections in the water until they shall not, as is too often seen in photos, seem exact duplicates of the sky.

This all attended to, a margin of at least one and a half inches (and two inches would be better), should be drawn about the outside of the picture to enclose it, like a matt of gray.

This gray is not now to be be mixed up of white and black ink, as the fumbler workman always does. You are to use the same yellow, red, and blue with which the picture was printed. These mixed in a gray, then, if your picture be cold in tone, *i. e.*, bluish, the gray must have more yellow or complementary color in it to lend warmth to the whole. If it be reddish in tone, or "hot," then you will need a greenish-gray, again complementary.

Dry emerald green, an aceto-arsenite of copper, is a useful *permanent* color to keep for such a purpose. A small pinch now and then is most useful in grays. A picture thus tastefully treated would hardly be recognized when compared with impressions from same blocks lacking such treatment.

Permanent colors are used because so many are fugitive.

The writer once lost an order amounting to many hundreds of dollars through the use of a beautiful geranium lake, which faded utterly away within a few weeks when exposed to the sunlight.

(To be continued.)

THE EFFECT OF CAUSTIC ALKALIES ON THE HANDS IN DEVELOPMENT.

BY F. S. DUNN.

Too great care cannot be exercised in submitting the hands to the action of developing solutions containing hydrate of soda or potassium (caustic alkalies); and in all cases where developers are used which contain these alkalies the hands should be protected with rubber gloves, or the fingers with rubber tips, as may be preferred.

Dr. J. H. Janeway, in his article on "The Alleged Poisonous Nature of Photographic Developers," explains the action of alkalies on the skin as follows: The epidermis, known as the cuticle or scarf skin, is composed of minute cells or scales, which, by their adherence, form a complete horny investment to the vascular cutis vera, or true skin, and which, as a

general thing, interposes a very considerable barrier to the absorption of toxic substances. Of course, the thinner this cuticle the more facility is given the passage inward of any solution from without; abrasions also cause the same action. Simply passing to the leeward of the poison oak (poison ivy it is sometimes called), will produce distressing and often alarming effects upon some persons, while others may handle these poisonous plants, and even bruise them, whilst so handling, with perfect impunity."

Carbonate of potassium or sodium are powerful alkalies when concentrated, and are more or less caustic and corrosive in their action on the skin, seeking and absorbing its water, and thus rendering it brittle and liable to crack, with abrasions and denuding of the adjacent parts, and other attendant evils. These effects are also noticed after the frequent handling of either of these alkalies when dry.

The action of carbonate of sodium and potassium is feeble, however, when compared with the action of caustic alkalies used in combination with paramidophenol, etc., and these developers are notorious for their action on the skin and nails. Rodinal, even when diluted in thirty to forty times its weight in water, will cause great discomfort to persons having a delicate epidermis.

As it is never possible to determine the exact strength of the chemicals used, it is almost imperative that developing solutions should be made up by hydrometer test as the only method to determine the strength of the solutions.

We have the most serious of all fields yet to consider, namely, the action of the caustic alkalies in combination with carbolic acid, which is the basis of all the phenol or new coal-tar developing agents, such as rodinal, metol, amidol, and hydroquinone.

It will immediately become apparent that as rodinal alone will cause greater inconvenience than caustic soda or potash, the combination increases the danger, and those who have a delicate epidermis, and have experienced trouble in the use of the caustic alkalies, should carefully eschew all developers in which these accelerators are combined with a carbolic-acid base, such as rodinal, etc.

PAPER—FROM AN ARTIST'S STANDPOINT.

BY JOHN A. LORENZ.

THIS is, to the mind of the writer, the accepted time for getting away from the "shiny" prints which have been in favor so long and for making real pictures. As a lover of art he wishes to say a few words about the predicament he finds himself in, and hopes that many more will see the reasonableness of his talk and do some talking themselves, to the end that we may have reform.

The great number of people who offer a "shiny" paper for sale (and I think a great many of them make paper that can be used with good results), and the few who make a matt-surface paper that can be used, proves one of two propositions—either that matt-paper is difficult to make, or that manufacturers have not seen the necessity of making it; to my mind the latter is the most probable reason.

First, let me give a little of my own history as to the difficulties in the way of getting a good printing-out matt-surface paper, and then some suggestions for the future:

About three years ago I wrote to a manufacturer for some prepared printing-out paper that I hoped would dry down soft,

like a steel engraving, that being the end in view and at which I am still aiming. The paper I received gave beautiful detail, delicate gradation, and deep shadows. I only noted one drawback, a tendency to turn yellow. This I kept under control by constant watchfulness in washing and the careful management of the toning and fixing. After a year and a half or so my paper man (could give names if desirable) stopped making that kind of paper. "No call for it," he said. So I wrote to another and told him my requirements, and did for awhile—very short while—get good paper, until he started in to make an imitation of platinum that could not be worked at all. Then I tried another paper, and have used it almost up to date. Now the manufacturer has stopped making it, gone off imitating something, as usual, and that is the end of my experimenting.

Now, having giving to manufacturers of paper privately my ideas on this subject, I give them publicly through the MAGAZINE, and hope that one who has spent his life in the study of art may be able to provoke some rivalry in the making of a paper such as I will describe. I feel confident from my own experience that the photographer who is an artist (while he may be as scarce an article, or more so than the righteous men that Abraham was able to find in the cities of the plain) can rouse trade for himself and also help photography toward getting out of its present low position as an artistic method of reproduction.

In the first place, then, to make pictures having any resemblance to engravings, a pure white paper is necessary, and it should have a surface not too smooth, with a soft effect of grain. Then, again, the paper should be thick enough not to stretch and cause distortion. I have seen papers complying with most of these requirements, but so thin as to stretch enough to be offensive to the most unpractised eye. While on the subject of the distortion of the picture by the paper stretching, I may say that the chance of doing away with albumen paper always gave me great satisfaction for that reason, although there were many other things that made me glad to see the new system established.

Let me emphasize the statement as being of great importance that a paper to be satisfactory to one who has art standards must be heavy enough *not to stretch*.

Now, in regard to coating. The substance should *not* have body enough to prevent the grain of the paper showing when the print is dry. All these things, it seems to me, could be attended to by a manufacturer who knows how to make a sensitized paper, and they are most reasonable requirements to all who make claims for their work as being art and are willing to submit it to art criticism. To others I have nothing to say.

A BAD HABIT AND A GOOD WRINKLE.

FRIEND WILSON:

Your request for a few points on my worst habit and my best wrinkle duly reached me some days ago. I have given up my gallery at Springfield and equipped a new studio in Cincinnati, where I hope to find opportunities for profit and growth which have hitherto been lacking.

Personally I believe my worst habit, and one all too common in the fraternity, is the failure to combine proper business methods with one's work along the lines of artistic photography. The profession of portraiture is one which calls for an artist if it is to be successfully followed as an art; and yet the business end is of such importance that at times it seems to require undivided attention; so that the two ends clash. It

is most difficult to combine the two so that each shall have its proper share of attention. Business is business, and all too frequently the man with the loudest horn seems to be most successful.

It is a pleasure to notice, however, the improvement shown in the more recent work of the profession in all sections, and the wonderful advance in the public appreciation of artistic photography. The effort of the photographer to put more art into his work wins constantly growing appreciation and better prices. When one enters an art store now beautiful studies by photography may be seen on every hand. This must lift up our art, and benefit the photographer in the long run, especially the conscientious worker, who, preferring to give his time to art, has suffered from the business point of view.

As to my best wrinkle: I find it to be a good investment to make from four to twelve negatives of the majority of my sitters. By this you win their confidence and good will, generally secure something more than usually good, and the extra money you get for prints of the various styles more than compensates for plates, retouching, and time involved. We also find it profitable to finish a few prints of our sitters in different styles of printing and mounting, and frame them. When our sitters call for their orders it gives them pleasure to see their portraits beautifully framed and on show, and more often than not they buy the prints at a good price. For such specimens in platinum and carbon, suitably framed, we readily obtain $3 each, at which rate they are quite profitable.

Fraternally yours,

G. H. BARNUM.

[NOTE.—Mr. Barnum is one of the Ohio photographers whose work of late years has won substantial recognition at home and abroad. His removal to Cincinnati is well timed, and will, we trust, prove as successful as he anticipates. Only the highest class of portraiture will be done at the new studio, the matt-surface and carbon printing processes being used exclusively.—EDITOR W. P. M.]

WHAT IS GAINED BY THE COMPETING ARTIST AT A CONVENTION WHO DOES NOT WIN A MEDAL.

BY C. M. HAYES,
Treasurer of the P. A. of A.

THE benefit to be derived from making an exhibit of one's work in any field of science or art, whether the exhibitor obtain meritorious mention or not, is so great that it would seem as if a discussion of the basic principles were unnecessary, but there are some who have not been willing to admit this gain—some who say that they are not repaid for the time and labor put upon an exhibit, where nothing is derived in the way of flattering prizes or notice to the public.

In its simplest form, competition is but comparison systematized; and whether one, by that systematic comparison is decided to be the best or not (whether, in other words, he wins a prize or not), he has the benefit of seeing those comparisons, and, unless he is so egotistical that he will not see good in others' work, he is sure to be a gainer. The manner of appointing the judges is such that there can be no question of unfairness. This article is, however, not intended for the prize-winners, but for those who have exhibited in the past and will at the coming Sixteenth Convention of the Photographers' Association of America.

From the very inception of the exhibit

there is a chance for improvement; the comprehensive workman endeavors to excel his best previous work, and in the study and labor he evolves something of merit that he never had before. He is striving after something, and that very striving means advance. It is unfortunate, if you will, but true, that one cannot stand still; it is always either progress or retrogression. Unless one aims for something ahead, one lives in the past, and in that living becomes a part of the past.

With the exhibit ready, there is another gain; one mind cannot know it all, and in the multiplicity of minds there is much learning, and in comparison much experience. Go to the convention with your exhibit and watch the manner of the people who view it. You need no judges to tell you what group attracts, and your artistic eye, unless wilfully blinded, will in a measure tell you why. You see for yourself the effect, the treatment, the lighting, and the posing that they like; and those are the points, if improved, by which you will add to your exhibit next year. You may not get a prize, but you know what is better, *the reason why you failed to win.* Knowing these reasons you are then in position to win not only what you covet at these annual displays, but those more substantial marks of public esteem, *dollars and cents.*

Do not flatter yourself that the public is ignorant of good pictures and their points, for, if you do, you will make a serious mistake. The public does know the value of artistic work, and those who would cater to the public must recognize it. The days of the old perambulating picture gallery, drawn around by a sorry-looking horse, are everlastingly gone, never to return, and the reason is the improvement of public taste. Every one now refuses to be satisfied with the hack work of the old time. Would you know why it is so? Would you seek the real reason? It is easy to find. For sixteen years the photographers have been educating themselves in their art through conventions, and unintentionally they have accomplished a much greater work, having at the same time educated the public to a standard of work and art that it would not have known but for this condition.

It was not the prize-winners who did this—not at all; but rather those men who year after year labored on, exhibited every year, and took back home with them ideas which the public mind, comparing the artist's work to that of the novice, readily recognized as valuable, and forced the other man, the one who would not thus learn, the old fogy, out of the business. By the same comparison which you learned the public was taught, and they had not those delicate and true opportunities of the man who sees his work side by side, it may be, with that which wins the first prize.

I was much struck, on the potency of exhibiting without winning, by the course of a young photograper of my experience. He had been in the work but a few years, and I remember how I laughed at his first exhibition. It was laughable. The young man was there—has been in every convention; and only a few days ago when I saw the improvement of the past year (for I had noticed improvement almost monthly) I was impressed by it, and asked him if he intended to make an exhibit this year. He said he certainly did; he intended to continue at the same school at which he had learned so much, namely, the conventions and competitive exhibits; and added, with considerable earnestness, that he should consider himself not only foolish from a business standpoint, but an ingrate also, not to aid in the exhibition of the Association which had done so much for him. That man will one day be a medal-winner, and simply add another living example to the good that comes from non-winning competition.

PRIZES OFFERED BY THE PHOTOGRAPHIC ASSOCIATION OF OHIO.

Convention at Columbus, July 14, 15, and 16, 1896.

Special Prize. For competition by all photographers of the United States and Canada, outside of Ohio. 1 picture, 16 inches or larger. One gold medal.

Grand Prize. Open to competition by members of the P. A. of O. only. 6 pictures, 16 inches or larger; 9 pictures, Paris panels to 13 inches; 12 pictures, smaller than Paris panels. Prize to consist of a suitable object of art.

Class A. 6 or more pictures, 13 inches or larger. 1st, 1 gold; 2d, 1 silver; 3d, bronze medal.

Class B. 12 or more pictures, Paris panels to 13 inches. 1st, 1 gold; 2d, 1 silver; 3d, 1 bronze medal.

Class C. 24 or more pictures, smaller than Paris panels. 1st, 1 silver; 2d, 1 bronze medal.

Class D. 6 or more pictures, Paris panels to 13 inches; 12 or more pictures, smaller than Paris panels. 1st, 1 silver; 2d, bronze medal. *Note:* Competitors in *Class D* must be from cities of 15,000 or under.

Class E. 4 or more pictures, Paris panels to 13 inches; 12 or more pictures, smaller than Paris panels. 1st, 1 silver; 2d, 1 bronze medal. *Note:* Competitors in *Class E* must be from towns of 5000 or under.

Class F. For best general display, no limit as to size or number. One bronze medal. *Note:* Competitors in *Class F* must be from towns of 1000 or under.

Class G. For best group, 7 inches or larger. One bronze medal.

Class H. Landscapes. 6 or more pictures, 7 inches or larger, with or without figures. 1st, 1 silver; 2d, 1 bronze medal.

Class I. Interiors. 6 or more pictures, 7 inches or larger. 1st, 1 silver; 2d, 1 bronze medal.

Class J. Commercial work. 6 or more pictures, any size. One bronze medal.

Rules and Regulations. Competitors for Grand Prize and Class A cannot compete in any other portrait class excepting Class G. Members from towns of 15,000 or smaller may compete in any class, subject to the rules governing them. Photographers outside of Ohio desiring to compete for Special Prize, are required to accompany their entry with a fee of two dollars, thus becoming honorary members.

GEORGE B. SPERRY,
Secretary P. A. of Ohio.

TOLEDO, OHIO.

A LITTLE THING AND A BIG THING.

BY A. HELMOLD.

NOTHING lends a greater charm to a portrait than a fine eye. Well, when the photographer gets old, when the color of the jackass shows in his hair—if he has any left, which is doubtful, everything considered—he also becomes less visionary. He does not see all that's worth seeing. For all he knows, till it is too late, there may be one or half-dozen catchlights in the eye of his sitter, if rather small heads are wanted. Result, fish-eyes that take half a day's doctoring. A little dodge will help out here: When you light your sitter, have your camera near to him, so that the ground-glass shows a big head. You know what I mean. Then all will be plain. When correct, move back to required proportions. That reminds me—

I don't see why—of Harry's electrical retoucher. Did you ever ride behind that beauty? If you haven't the $25 handy to buy it, my advice is, don't look at it, for once seen, the girl don't live who can set up such a yearning in your frantic bosom as that little vibrator. Get the money first; I know what I am talking about. Not that the dainty little thing will perform miracles in inexperienced hands. A spring chicken will hatch out only mischief with it. A negative isn't a kitchen-garden where highcockolorum jigs and fowl methods are the rage.

OLD TIMES RETURNING.

BY H. W. HALES.

PERHAPS some veteran in the business may start slightly at this announcement, but if he will look carefully over the latest photographic literature he will see that many of our best workers are now beginning where they were ten years ago, and are returning to the use of albumen paper. And why? Simply because the novelty has commenced to wear off the one-hundred-and-one ready sensitized papers with their high-sounding names, and practical workers are finding out that good home sensitized paper is, after all, the best in the long run. Even Mr. Pullup, who wrote such a gushing testimonial to the Slickem Manufacturing Company about the wonderful cures (of blisters), is now using the old albumen paper, and is laughing in his sleeve at the gullibility of his competitors in town who think he is still using the "Slickem" brand. Surely old times are returning, and let us hope that with it will return the old-time prosperity and an increase in public respect for us and our art.

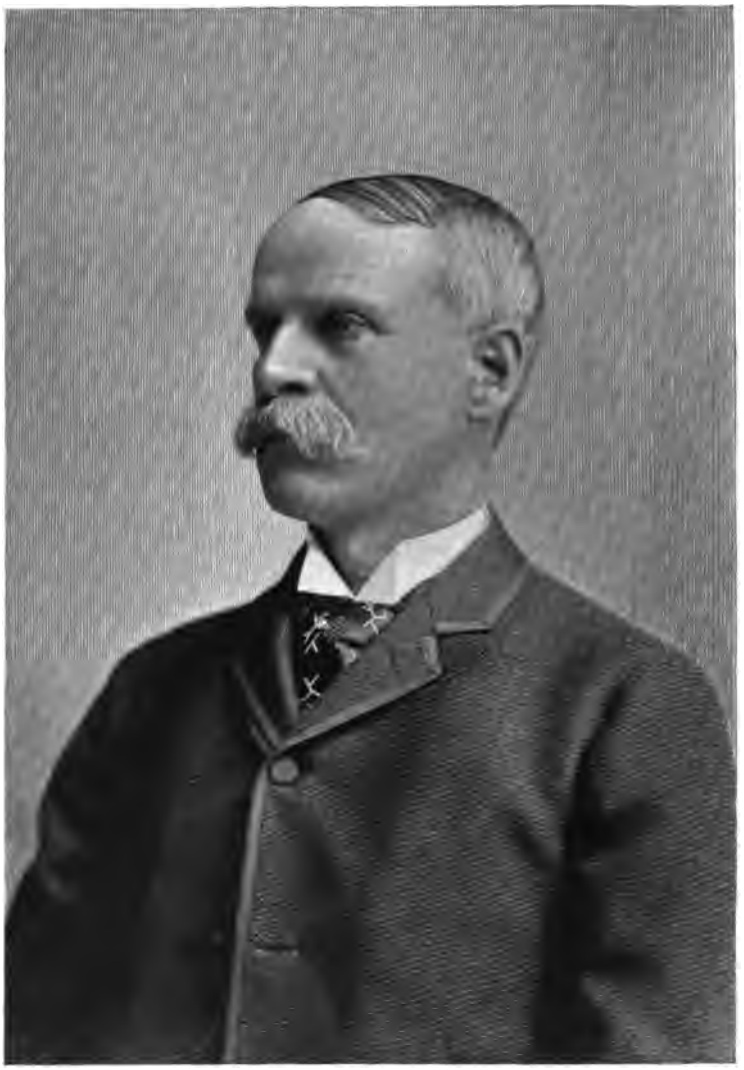
NEWS AND NOTES.

THE British Photographic Convention meets at Leeds, Eng., July 13th. An interesting programme, combining social and practical features, has been prepared, and a very enjoyable meeting is expected. Mr. H. P. Robinson is the President of the convention this year, and has arranged to exhibit a collection of one hundred examples of pictorial photography representing the finest examples of prominent workers. This collection should be well worth going a long way to see.

THE editors of the *Photogram*, 6 Farringdon Avenue, London, E. C., are anxious to secure examples of American photography for reproduction in their forthcoming annual, *Photogram of 1896*. Pictures sent to the address given, before July 30th, will receive every attention.

AN English amateur named Lodge has for some years devoted his leisure time to the photography of birds in their native haunts. He uses a telephotographic lens in his work, and envelopes himself with his apparatus in a huge bag which enables him to approach near enough to his subjects to photograph even the most timid kinds of birds in their nests feeding their young. An exhibition of his work was recently given at the London Camera Club, and attracted much admiration.

THE telemeter is the latest helper introduced for hand-camera workers. It is a little instrument which, when looked through toward the base of any object within twenty-four feet of the camera, records the exact distance in feet of the object from the camera.



C L Pattison

OBITUARY.

MR. CHARLES L. PATTISON.

ONE more earnest friend of photography has passed on to his rest. On Thursday night, April 9th, Mr. Charles L. Pattison, of Elkland, Tioga County, Pa., succumbed to the shock of a surgical operation and died in the Hospital of the University of Pennsylvania in Philadelphia. Mr. Pattison was the head of the banking firm of C. L. Pattison & Co., at Elkland, and was connected with many business enterprises in Tioga and Potter Counties. He was an enthusiastic friend and patron of photography. Besides owning a fine camera and assisting others in the practice of our art, he was able, owing to his peculiar opportunities, to do more than usually falls to the lot of the busy man, to create food, so to speak, for the camera. His home was situated at Elkland, in the beautiful Cowanesque Valley, a few rods from the picturesque river of the same Indian name, where lovely views of hill and valley appear on every side. Mr. Pattison, we say, did more than any one to bring about these sublime combinations of natural scenery. He came into this valley nearly fifty years ago from Chester, New York, with his father (one of the most prominent early settlers). Then the hills were covered with dense forests, and there were no thoroughfares along the Cowanesque. Since then the mines of coal have been developed; the woodsmen, the lumbermen, and the raftsmen have been and are gone; the forests have fallen; well-kept highways now zigzag along each side of the stream and wind over every hill. The rolling stock of two railways may be seen from any incline, ascending, descending, plunging through a valley lined by magnificent farms, the scene varied by many prosperous towns on the way. With the development of all this Charles L. Pattison had to do. His happy school-days were broken into occasionally by rafting experiences, many of which were related by him as we strolled together with the camera among the pictures which his industry and enterprise had helped to make. After serving a time as cashier of a great coal company, he in turn became operative farmer; manager of real estate; banker; a party to all sorts of enterprises; a member of the bar; a railroad president and a manufacturer. He never forgot the importance of keeping a photographic record of the many changes which contributed to making the valley of the Cowanesque prosperous and picturesque. He was a noble, warm-hearted, generous man. Prospered unusually, he took the unusual view that wealth was a blessing which should be used to assist others; and so it was his policy to keep his means employed in the development of the community in which he resided. Thus he brought much personal labor upon himself that he need not have undertaken; thus he became the great blessing he was to the people among whom he lived. So, it came about that those who best knew him, most loved him. His word was truth. No one ever thought of doubting what he said. He was manly and brave. One of his mottoes (a legacy for all of us) was, "I never dread anything that I feel I ought to do." His passing away seems untimely; but as to that we may not judge. A great shadow hangs over all the pictures now; yet we may continue to gather sunshine and inspiration from his busy life, and rejoice that we have the excellent portrait of him which appears herewith.

Alone must those who loved him combat the

> "Waves over which we all of us must voyage,
> All whosoe'er the fruits of earth have tasted,
> Whether that earth we rule
> As kings, or serve as drudges of its toil."

PROFIT IN DETAILS.

BY O. E. AULTMAN.

MANY ways are advised by which the photographer can increase the yearly income derived from his business, but the profitableness of giving careful attention to the small details has not, in my opinion been sufficiently realized by the majority of the workers in small galleries, where every little thing tells for or against the photographer at the end of the year.

O. E. Aultman, Photographer.

THE PARISH PRIEST.

My own experience has taught me that in the daily conduct of a gallery there are many opportunities both for making and saving dollars which are too often left ungrasped because, looked at separately as they occur, they seem to be "little things," and so not worth attention. For instance, when the new aristo papers came into use, the statement got abroad that the "wastes" of such papers were not worth refining, as containing little or no silver. Doubtless thousands of dollars have been thrown away by the fraternity, which, if saved, would have started the endowment of a national school of photography. I would advise that all clippings of printing-out papers and all baths and wash-waters should be saved and reduced.

In the buying of stock or furnishings an ounce of forethought is worth a pound of the other kind. How often the photographer is persuaded to buy this or that accessory because Strauss or Falk is using one of the same sort, only to find when the purchase arrives that its uses are very limited, and that a little thought would have resulted in a better investment for the same expenditure.

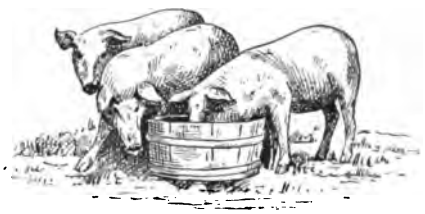
Of the profitable details which deserve attention in the handling of patrons at the gallery, I need not expatiate. There are some people who know exactly what they want when they come to the photographer, but the majority can generally be persuaded to extend or change their orders in a profitable way if properly handled at the studio. Of course, there must always be tact and courtesy used in this; but I know that in the leading galleries the business of a single day is often doubled by attention to this detail in the right way and at the right time.

How much business is lost by the neglect of a patron whose order has been filled! The average photographer does not seem to appreciate the real value of a good portrait negative once obtained. After the order has been filled and the patron pleased, the business usefulness of the negative may truly be said to have just begun. It may be reproduced in a smaller size, printed in several different tints by the carbon process, and made to appear quite different from those supplied to the customer. Or a miniature may be made from it very easily, and colored, an oval gilt frame completing the picture. Or by the bromide paper process the picture may be enlarged to "Paris panel" size, to form a very effective portrait for framing. By submitting these novelties to the customer at a persuasive figure a considerable amount of profit may be added to the business of the year. I need hardly say that discrimination must be used in the selection of the customers for whom this speculative work is undertaken; but this being provided, I do not think the photographer will have more prints thrown back on his hands than he can profitably use as specimens in his rooms. Duplicate order work, of course, falls under this head also.

ABOUT FEELING AND JUDGMENT.

My Dear Jack: At the close of my last letter to you (February issue, page 79, *The Apex of the Pyramid*) I had something to say on the subject of "Feeling." I suggested that you acquire the faculty of observation by correcting Nature's forces where accident may have changed them, etc., and gradually you will be able to see and feel the most beautiful and most perfect in everything, at the same time learning how to combine and manage objects for your camera agreeably to their nature. As I also intimated, this is one of the very highest attainments in art that you may expect to reach. The spirit moves me to say a little more to you on this subject.

Once, when I was a student in art, I visited a collection of fine pictures. I was accompanied by two gentlemen who were painters. As they discussed the paintings I frequently heard them say, for example, "no, I cannot say that I feel it that way;" or, "now, my feeling is that the sky should have been," etc., or, "I feel that the subject demanded less," etc. That sort of talk about "feel-ing" was new to me. I could hardly understand how one could "feel" a painting. (Fool that I was. I would not ask.) Resorting to my good old dictionary when I returned to my quarters, I found this definition, viz: "Feeling—perception, the power, act, or state of receiving a knowledge of external things by impression on the senses." From that time on—photographer though I was—I understood and I began to "feel." Gradually I could see into things and understand them better. I would find myself observing more closely; and a new happiness came into my life. I could find pleasure everywhere as I went about. Even a



A MATTER OF FEELING.

group of pigs became to me a matter of "feeling." Previously a group like this would not particularly attract me. Now I can see how the artist has so arranged the selfish little animals as to delineate the true character of the porker, while he

Mrs. J. H. Kendall, Norfolk, Conn.

THE VILLAGE BLACKSMITH-SHOP.

presents evidence of much feeling and unfeeling, and at the same time exhibits to us exactly how he used his judgment in the selection and arrangement of the group. You see how it all is, Jack; the eye and the hand—feeling and judgment must walk together, must act in concert. So, then, it appears, and it must be, that in order to acquire art-power for ourselves, and to know how to appreciate it in others, we must agree that the first principles of art are based upon the distinction of the separate and combined influence and the employment, singly and in combination, of feeling and judgment.

To make myself better understood, I will suppose you are ignorant of art. (Hold on, Jack! don't get riled; I will get you a substitute, if you insist.) I place before you now an engraving of a photograph that exhibits a great deal of feeling, and shows forth the exercise of much judgment on the part of the talented lady who produced it. The scene is one of much simplicity, yet it is one I always stop to look at whenever I have the opportunity. Of course, you can see the difference between the blacksmith and the horse, and you may be able to distinguish the tool-box from the pile of horseshoes on the ground. But this is about all you will *think* of. You are incapable of estimating the power with which the story is told, and equally so of feeling the influence of the art displayed in selecting and arranging the accessories and in placing the other parties to the combination. You see the symbol, but you do not feel the soul in the picture. You are not artist enough for that yet. You require more knowledge to assist you in comprehending the full meaning of what you see to enable you to judge of and estimate the talent of the artist and to enjoy fully what the picture portrays.

Bring an artist friend along with you to view the picture. Instantly his mentality begins to work, as a bee begins to pump as soon as she lands upon a flower. His artistic rule is applied and his measurements begin intuitively. He is feeling—

feeling the principles by which the photographer has been able to place this scene so naturally and so vividly before him, with characters posed as if living and breathing. How wide is the difference between you and your trained friend! He sees and feels innumerable things unknown to you and unfelt by you; he understands the symbols and pierces the veil; his intellect finds a congenial subject for its exercise; all his sympathies are aroused and interested. He experiences the depth and force of truth; a power approaching realty; and his innermost soul is captivated by the wily charms of the work before him, while you stand unsympathizingly cogitating upon the horseshoes and the tool-box.

Now let us get back to our subject. A bridge is a good thing to study, and a proper picture of a bridge is not so very easy to make—with feeling—but it is done. A bridge photographer, above all other things, must aim to show the mode of construction of the bridge, which in almost every case detracts from the pictorial effect—I am presuming, of course, that he is making the photograph for the builders. There are times, however, when the location and surroundings make a structural picture an impossibility. That is so in the present case, and making an accessory of the bridge allows an attempt at pictorial effect.

The example before us is an excellent piece of handiwork and good judgment from Mr. C. H. Graves, of Philadelphia. When photographing such scenes the training comes to the front and helps select and secure the best. The introduction of the figure in the foreground was a practical

C. H. Graves, Philadelphia.

WYOMING AVENUE BRIDGE

"BEAUTY."
Night-blooming Cereus.

application of feeling on the part of the photographer, and adds much to the pictorial value of the view.

And so is it, Jack, with about all you undertake in your art. The pursuit of art is worthy of the human mind in proportion as the mind is employed and displayed in it. Imitation is the most natural source of art. How often when we attempt a photograph we find ourselves trying to shape it after some ideal—to fit some title. For example, we call a group of the spirituelle flowers of the night-blooming cereus "Beauty." We name the successful picture of a cathedral interior with its "dim, religious light" and lofty nave "Quiet." And "Strength" is chosen as the quality which our picture of an Egyptian temple is thought to represent. All this is right, and follows in the path of right principles. The mind should be engaged by studying particularly the effects of art upon it—in learning by what means, and subject to what laws, the feelings may be affected through the sense of sight; what degree of imitation is necessary for this purpose and within the reach of Art; in the study of those laws which Nature herself observes in her works, and in their effects upon the mind, as stated above.

Then we may rest confident that the ability is in us to discover and correct what is wrong and how to apply truth in order to secure the most beautiful and the best choice.

As to what is the most beautiful and the best in a given subject artists will disagree because they "feel" differently; hence their judgment clashes, according to circumstances.

We began our letter with a commonplace illustration; we may end it with another. Let it be a dead—horse.

Treated as a picture, his good points would be "felt" one way by a chemist (who will always make the most of him);

quite differently by the bootmaker; in yet another way by the glovemaker; with much humor by the toymaker; with great care by the gluemaker, while the dude would see in him only a chance at making matches to light cigarettes.

We are told that the carcass of a horse is of more value for its chemical products than the living animal. The hair is first removed by shaving, and is used for stuffing cushions and horse-collars. The tail and mane are of special value, being used to make haircloth. The hide is converted into leather. That made from the skin over the rump is known as cordovan, and is used in the manufacture of high-class hunting and wading boots, as it can be made impervious to water. The other leather is soft and used mostly for slippers and heavy driving gloves. The hoofs are boiled to extract the oil, and the horny substances shipped to manufacturers of combs and what are known as Mikado goods. The carcass is cooked by steam at a pressure of three atmospheres, which process separates the flesh from the bones. The leg bones are very hard and white, and are used for handles of pocket and table cutlery, while the ribs and head are burned to make boneblack after they have been treated for the glue that is in them. In the calcining of these bones the vapors arising are condensed, and form the chief source of carbonate of ammonia, which constitutes the base of nearly all ammoniacal salts. There is also an animal oil yielded in the cooking process which is a deadly poison and enters into the composition of many insecticides and vermifuges. The bones to make glue are dissolved in muriatic acid, dissolved in

H. Kimball, Concord.

"QUIET."

boiling water, cast into squares and dried on nets. The phosphate of lime, acted upon by the sulphuric acid and calcined with carbon, produces phosphorus for lucifer matches. The remaining flesh is distilled to obtain carbonate of ammonia. The resulting mass is pounded up with potash and then mixed with old iron of of every description. The whole is calcined and yields yellow crystals of prussiate of potash, with which tissues are dyed "feel" even a dead horse differently. A little story may be allowable, which will add one to the multitude of those who can feel. It is this: A gambler stole a horse; to avoid detection (being pursued by a vigilance committee) he killed the animal and had it "worked up" chemically and industrially. The horse became the avenger of his own abduction and slaughter. The rest of the story is explained by the next picture. The sketch was made by Mr.

Edward L. Wilson, New York.

"STRENGTH."
The Rameseum, Thebes.

a Prussian blue, and iron transformed into steel. Cyanide of potassium and prussic acid are also formed.

I use the defunct equine as an illustration, Jack, because, from contact with you, and experience with others of your calling, I know that I can most successfully impress my meaning if I draw from actual nature for my illustrations. You will readily understand now how it is possible for different tradesmen (or artists, if you prefer) to Aug. G. Marshall, Artist, 69 S. Elliott Place, Brooklyn, N. Y. He drew a colored lantern-slide of the product, and permits my use of it in this connection, adding his own explanations.

In a *Manual for Teachers*, by Prof. T. F. Wilson, I find this:

"It is a serious mistake for the teacher to expect too much in the beginning. The boy who first attempts to handle a hammer, plane, or saw makes very awk-

"FEELING," AN ARTIST'S X-RAYS ON A DEAD HORSE.

The gambler, as shown by the X-ray imp viewing the dead horse, is seated on a *haircloth* sofa, before a *horsehide*-covered table; *trousers, gloves, boots, whip, belt, purse, tobacco-pouch, poker-chips, dice*, and the other contents of the table are all products of the horse he stole and killed, some of which have become the means of his own death. The dagger he thrust into his heart (while drinking cyanide, prussic acid, and ammonia font., mixed) is of steel, made with some product of the animal, and has a bone handle from his shin, etc.

A. G. MARSHALL.

ward work of his undertaking. He may read all about how it should be done, the teacher may show him the proper way of holding the tool, but still it remains for the child to learn its best lesson in its own awkward effort to do the thing desired. There has always been and always will be a wide diversity of capability to profit by this practice, nevertheless it is the only way in which progress and proficiency can come. Many a capable child in actual life makes rapid progress without any teaching save that given by experience. The school teacher should constantly keep this in mind, and remember that it is far better for the child to keep doing, though blunders are made, than not to do at all, and that according to the capability of the child practice will finally bring improvement. A baby learning to walk or talk continually makes mistakes. No one thinks of stopping the child because his busy mamma is unable to correct each individual blunder as it occurs, and yet somehow or other the child does learn to walk and talk. In like manner he may learn to write, to draw and to spell, provided he can keep trying, and feels the same impulse to do these things that he feels to walk and talk."

So it is in our art, Jack. Progress and proficiency will come by practice, and they bring great delight with them.

Very truly yours,

EDWARD L. WILSON.

AUGUST BRASSART, the venerable scholar and mechanic, who prepared the silver plates used by Daguerre in his earliest experiments, is living in retirement at Naugatuck, Conn.

MAKING THINGS GO.

How to make things go. This five-word sentence contains a puzzle which has exercised the business brains of the ages; yet the best way of "making things go" is yet undetermined for all and for all time.

Henry Holler, Brooklyn.
MAKING IT GO.

It is an individual matter, and must be so treated. Inasmuch as some of us are "born tired" and without any individuality, feeling so in this season of "spring-fever" especially, we find it convenient and easy to watch the movements of others, and, if possible, to try to discover a solution of the puzzle, work upon their thoughts and save our own.

So many good hints come to us from our able correspondents that, whether any of the class we have described are among our subscribers or not, we think some of their methods should have record here, both for the help of others and for the credit of their inventors.

Mr. Henry Holler, of Brooklyn (one of our companions on the "Pilgrimage after Pictorial Effect in Photography"), finds the circulation of pretty pictures of children a "paying" means of bringing business. The whole world loves such children pictures and the mimic life they represent. The love of them predominates. Only recently our Government was relieved from much trouble with a tribe of Indians by the presentation of a doll to a little papoose. The gift touched the savage hearts, and the tribe took the trail for home.

George B. Sperry, Toledo.
THE MILKMAID.

Mr. Geo. B. Sperry, of Toledo, Ohio, is intellectually and artistically one of the brightest of our craft, as well as a good business man. He likewise circulates children's pictures as an attractive means of advertising his facilities among probable patrons, accompanied by a circular something like this:

HAVE YOU NOTICED THE CHANGE?

The leading photographers of the country are in advance of the movement which is reacting against gaudy, glossy, simpering photographs. The tendency of the age is toward pictures that are soft in effect, yet faithful in their reproduction of detail and style.

BLACK AND WHITE

In perfect gradations, from the purest absence of color to the deepest shadow effects, has long been the goal for which artists have striven.

THE CARBONETTE PORTRAIT,

Now fully perfected, gives the conscientious photographer the desired medium. It enables him to put that individuality into his work that distinguishes the artist from the mere photograph-taker.

Tone values in dress fabrics are properly rendered by this method, so that to the trained eye accessories become such in reality, and are not additional problems to solve.

GEO. B. SPERRY,
319 Summit Street.

Sittings made by appointment.
Phone 1534.

This is undoubtedly a good means of advertising.

Mr. F. M. Somers, the well-known Memphis, Tenn., artist, finds the making of subject pictures productive of much fame and business for him. His "Weighing the Baby" is an example of his work in this line, and here is another one which has great popularity, with a title which suits the spirit of these hints.

The beautiful collection of sixteen portraits, which appears as an inset in our current number, is from Mr. A. N. Camp, Jamestown, N. Y., one of our best business photographers. Mr. Camp sends us a circular, which we include here. It explains itself or its purposes.

ART STUDIO
of
A. N. CAMP.

Fine Photos a Specialty. Orders Taken for Portraits in Crayon or India Ink.

No. 207 MAIN STREET.

JAMESTOWN, N. Y., 189

We have been informed that you are

If you contemplate having pictures taken we shall be very glad to show you our work and secure your order. We have a full corps of competent workmen and complete facilities for doing all kinds of first-class work. We guarantee the best of service and promptness in filling orders during the summer months.

We offer special inducements or terms to those who need a number of pictures. Prices made known on application.

F. M. Somers, Memphis.
READY FOR ANYTHING.

Thanking you for past favors, if you have been our customer, and asking for a share of your patronage in the future, we remain,

Respectfully,
A. N. CAMP.

Finally, to show how we ourselves try to take business advantage of our opportunities, we add the following:

We wish a good season of business during the bright days for all

ILOTYPE.
TRADE MARK.

THE ILOTYPE COMPANY,
SENSITIVE PHOTOGRAPHIC PAPERS,
NEW BRIGHTON,
STATEN ISLAND, N. Y.

Dec. 27th, 1895.

Dear Sir:-

We take great pleasure in sending you to-day, by prepaid express, one of our ILO Calendars, which we hope you can find room for in your editorial quarters, and that it will be a daily reminder to you of the fact that ILO paper is now better than it ever has been.

We hope, that during 1896, Wilson's Magazine will, as in the past, continue to grow in all that is good and great, that its influence for the general advancement of things Photographic will be felt more than ever, and that your subscription list will out-do itself.

We are, with kind regards,

Yours truly,
THE ILOTYPE COMPANY.

Mr. Ed. L. Wilson,
853 B'way,
N. Y.

LARGE PICTURES FOR STUDY.

THE publication of the beautiful portraits by Mr. B. J. Falk, which we offered to assist photographers in posing and lighting their subjects under the skylight, has led to a demand for original pictures of large size as being better adapted for use as studies. Undoubtedly more good can sometimes be obtained from the careful study of an original work of large size than from a small reproduction. The chief difficulty in providing large photographs for the purpose mentioned has been the prohibitive prices asked for the use of the negatives. This we have overcome by selecting a number of the best negatives sent in for our Prize Competition of last year, and can now offer to those who are ambitious to improve their own work by an acquaintance with the best efforts of their fellows, a collection of large-size photographs. This collection embraces eleven subjects, men and women of various ages, examples of plain portraiture and fancy figure studies. Each picture carries its own lessons for the student, and whether the photographer buys a single copy or the complete collection, he will find his investment profitable. With this notice we present engravings of two of the pictures which fairly represent the collection.

The full list of the subjects is as follows:

No. 1. Half-length portrait of an old man reading. Shown in the accompanying

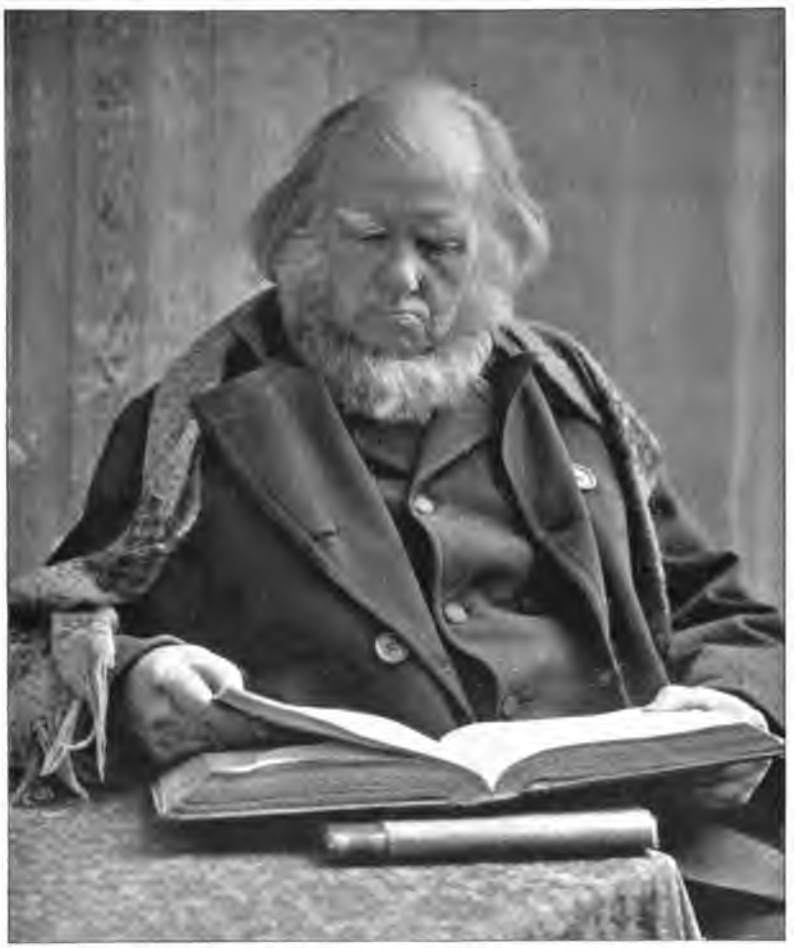
illustration. Original 11 x 14; negative by W. G. C. Kimball, Concord, N. H. This picture secured the first prize in the competition.

No. 2. Three-quarter life-size profile head; same subject as No. 1, 11 x 14; negative by W. G. C. Kimball. A thoroughly good piece of work.

No. 3. "Stolen Sweets," shown in the engraving. Original 11 x 14; negative by C. O. Towles, Frostburg, Md. This picture secured the second prize in the competition.

No. 4. Three-quarter length pose of a lady in indoor costume, 11 x 14; negative by C. O. Towles.

No. 5. Three-quarter length standing pose of a lady in street costume, 11 x 14; negative by C. O. Towles.



W. G. C. Kimball, Photographer.

A PHILOSOPHER.
Awarded first prize in the recent competition.

No. 6. A panel portrait of a lady in Grecian costume, cleverly posed, 11 x 14; negative by McCrary & Branson, Knoxville, Tenn.

No. 7. A panel portrait. Same subject as No. 6, but a standing pose, 11 x 14; by McCrary & Branson.

No. 8. "A Modern Cigarette Fiend," 11 x 14, picture of a young man in the act of lighting a cigarette; by C. A. Fritsch, Pittston, Pa.

No. 10. A full-length portrait of a lady; fine pose, 14 x 17; negative by Adam Heimberger, New Albany, Ind.

No. 11. Three-quarter length portrait of a lady; an elaborate composition, 14 x 17; negative by F. M. Somers, Memphis, Tenn. This picture was awarded the third prize in the competition.

Photographer.

STOLEN SWEETS.
Awarded second prize in the recent competition.

C. O. Towles,

No. 9. A full-length portrait of a young lady, standing pose; hall interior, 11 x 14; negative by Herbert G. Tiffany, Indiana, Pa.

The prices are: for 11 x 14 pictures, unmounted, $1 each; mounted, $1.50 each. For the 14 x 17 pictures, unmounted, $1.25 each; mounted, $1.75 each. Packing and postage free. All orders must be accompanied with cash.

THE ROSS-GOERZ ANASTIGMAT *VS.* THE RAPID RECTILINEAR LENS.

BY WILLIAM WESTON.

MANY articles have appeared in the photographic journals in praise, or condemnation, of the new double anastigmats manufactured by Messrs. Ross & Co., as against the old, and, for many years, the standard type of lens, the rapid rectilinear.

Noting the absence of any record of exact comparative tests, I was induced to take the matter up and make an exhaustive series of tests. The results obtained were so interesting that they will doubtless be of interest to the photographic profession in general and process workers in particular. Half-tone and line reproduction being the most difficult tests for a lens, I naturally turned to them as a basis for my experiments.

In a recent article bearing on the subject by J. Weeks, the use of a lens of nineteen inches focus was suggested as the standard size for process work, the opinion being expressed that it was the most suitable lens for all-round purposes in photo-engraving. The writer, therefore, procured a nineteen-inch Ross-Goerz lens from G. Gennert, New York, the importer and wholesale agent for these lenses. A rapid rectilinear of well-known make, of about the same focal length, was also procured.

In the first experiment, which was made as follows, the Ross-Goerz anastigmat was used: A line drawing, shown in the accompanying illustration, was attached to a drawing board set in grooves at the end of a photo-engraver's camera-stand, so that the drawing board could be moved either to the right or to the left of the lens at will, always remaining, however, exactly parallel to the ground-glass. After focussing the subject directly on the centre of the ground-glass of a 14 x 14 process camera, the image was reduced about twelve diameters, the

FIG. 1.

REPRODUCTION MADE WITH THE ROSS-GOERZ ANASTIGMAT.

focussing being done with full opening, *f*/7.7, of the lens, with the aid of a microscope to insure its being absolutely accurate. When the focus had been secured

the board to which the subject was attached was slid along in the grooves, so as to bring one edge of the image projected on the ground-glass to the edge of the ground-glass, virtually giving the same effect as if a full 14 x 14 reproduction was made. (It would be impossible to publish the illustrations of a full size 14 x 14 reproduction in these pages.)

The idea of getting a full effect of the 14 x 14 reproduction in this manner is original with Mr. Weeks, of the Weeks Engraving Co., who suggested to us this very valuable aid in our experiments. After arranging the subject in the position desired, the stop *f*/32 was inserted, and an exposure of one minute made by electric light, with the aid of a mirror to brighten up the side of the image furthest away from the electric lamp.

The rapid rectilinear was then mounted on the front board of the camera, and the subject similarly focussed with the full opening of the lens. A great difference between the lenses was at once apparent, especially when the drawing was moved so as to bring the image to the edge of the 14 x 14 plate.

The image given by the Ross-Goerz anastigmat with its full opening was absolutely sharp, whereas it was necessary to insert the diaphragm *f*/22 into the rapid rectilinear lens to insure any definition whatsoever, and *f*/64 was finally the stop selected for the exposure, which, exactly under the same conditions, was increased to four minutes. Upon development of the plates the difference immediately became apparent. The lines of the rapid rectilinear showed such a lack of sharpness that we feared we would be unable to etch a plate from the negative. Astigmatism was also strongly noticeable in the negative.

It will be seen at a glance that whereas all the vertical lines in the reproduction made with the rapid rectilinear are fairly well rendered, the horizontal lines are simply a mass of blotches and distortions. In the negative taken with the rapid rectilinear, certain delicate parts of the original line-drawing were entirely lost, as they were so covered that in the printing preceding the etching they were hardly visible, and disappeared entirely in the etching.

Looking at the Ross-Goerz block it will be seen that not a line is lost. A comparison of the negatives is very interesting;

FIG. 2.

REPRODUCTION MADE WITH RAPID RECTILINEAR LENS.

the Ross-Goerz negative showing every line in its true value clearly and sharply cut (a certain half-tone which is in the copy truly rendered at its value); whereas the negative made with the rapid rectilinear is so covered in many places that the lines hardly

F M. Somers. *Memphis, Tenn.*

ALICE BRUCE STARK.

show in the print, and in other places so distorted that the lines print in one blotch. Of course, all this is aggravated in the etching, for no matter how much care is used the result is bound to suffer somewhat.

The second experiment was made with the aid of a half-tone screen, 175 lines to the inch, and an exposure to daylight. A lithographed cover, 3 x 3 feet, was taken as a subject, and a reduction to half-size on a 17 x 17 plate made. After careful focussing, a plate was placed in the lower left-hand corner of the plate-holder (thus again virtually using a 17 x 17 plate, for diagonal corners in this negative represent the corner and centre of a 17 x 17 plate). These being sharp, as a consequence the lens would cut a 17 x 17 equally well.

First, a single exposure of twenty seconds was given with the Ross-Goerz anastigmat, the diaphragm used being *f*/32. Then a single exposure was made with the rapid rectilinear, the diaphragm again being a round one, *f*/32. The rapid rectilinear had the advantage of being fitted with a prism, whereas the Ross-Goerz was used in connection with a boxed mirror. By the resulting negatives the superiority of the anastigmat was easily proven. The resulting sharpness all over the plate, and toward the edges particularly, easily weighed in its favor. In the corners of the half-tone negative produced by the rapid rectilinear the image is distorted and illegible, readily noticeable in the fine script letters near the corners, all of which appear blurred and indistinct. The plate made with the Ross-Goerz was cut to the edge with miscroscopic sharpness.

These tests demonstrated to me without a doubt the superiority of the Ross-Goerz double anastigmat, which opinion was closely corroborated by the practical photo-engraver with whose assistance these tests were made. His opinion is that for process work the anastigmat certainly stands unrivalled.

I hope to continue my experiments further, and give the readers of this MAGAZINE more comparisons in the reproduction of groups and of machinery, for which purposes I believe that the Ross-Goerz lens will show to the greatest advantage.

[NOTE. The Ross-Goerz Anastigmat, by the test here given, also proves to be superior to the rapid rectilinear for all photographic work where extremely fine definition, great covering power, and rapidity of action are required.—ED. W. P. M.]

THE OBSERVER'S CORNER.

WITH a superlative degree of satisfaction the Observer read the appeal of Editor Wilson in the last number in behalf of Jex Bardwell. Like our late "unpleasantness," a generation has passed since the "bromide war," and only the veterans now recall the stubborn and persistent part taken in the campaign by Jex Bardwell. Old-timers have not forgotten the debt which they owe him, and will cheerfully respond, but the younger members of the profession need to be reminded that they have been benefited as much as those who preceded them by the successful resistance of the bromide patents. The resultant benefits have gone on from year to year until by limitation the original patents and extensions expired. Now gladden the heart of the old warrior in his declining years by generous contributions toward a home where he can spend the sunset of life free from the persistent demands of a selfish and cold-hearted landlord.

And here let me remark, with the assurance that no fatal blue pencil has any right or authority to prevent its publication, that another individual in connection

with Mr. Bardwell was pre-eminently active in the bromide campaign, not only furnishing the sinews of war from his own not too bulging purse, but contributing articles which had as much to do with the defeat of the patents as the labors of the lawyers who fought the patents. The Observer recalls that he employed at his own expense a talented lawyer, well versed in patent laws, specially to defend the suits which were brought. He was active and alert during the whole controversy and left no stone unturned until the questions were finally settled to the satisfaction of the fraternity. No name is mentioned, but if the profession can recall the name of one who has been foremost in everything which pertains to the well-being of the photographer, and who for more than a "quarter of a century" has devoted his time and talents to their interests and for their elevation, they will with one consent unite upon the person to whom the Observer refers.

The time for the meeting of the next convention is bowling along and soon will be with us. So far we have not seen any official or unofficial programme of the proceedings, but in one of our trade journals it is announced as an inducement for photographers to attend the convention that arrangements are made for base-ball, ten-pins, excursions on the lake, concerts, dances, races, and if any form of amusement was omitted, the Observer fails at the moment to recall it. No mention was made of any papers which would be read or any subjects that would be discussed. Do not the inducements which are held out to draw a large attendance tend rather to lower the dignity and standing of the profession? We claim to be artists and interested in the development of our chosen profession. How would it strike you, if the gentlemen interested in the Association for the Advancement of Science should issue a programme for their next meeting announcing as an inducement to attend that a nine from the geologists would strike bats with the chemists, and that Dr. Blueviews would render some choice selections, including Paradise Alley and Uncle John?

Seriously, the inducements to attend our annual convention should be of an educational character. The social part should not be neglected, but it ought not to be the characteristic and predominant feature.

The Observer in years past has attended many of the conventions. They were more helpful in times past than they have been in later years, but no one can go without reaping the benefits of communion with fellow-members of the same profession. Like other mortals, photographers talk "shop" when they come together, and scores upon scores have here picked up ideas, and formulæ, and methods of doing business which more than compensated for the time and money spent in attendance at these gatherings. In conclusion, do not forget Jex Bardwell—remember always with the kindliest gratitude the other individual to whom I referred, and, finally, make your arrangements to attend the next convention and avail yourselves of the opportunities which it will offer for your instruction and amusement. THE VETERAN OBSERVER.

CINCINNATI, May 12, 1896.

THE "zoological" camera, used by a photographer whose specialty is the photographing of animals, is fitted with three quick-acting portrait lenses, perfectly coincident, two mounted side by side, and the third set above to act as a focussing finder. In use, the camera is set upon a tripod with a ball and socket joint, and the plate-holder being placed in position, the worker can readily follow all the movements of his subject, with hand ready to touch the shutter release at the right moment for success.

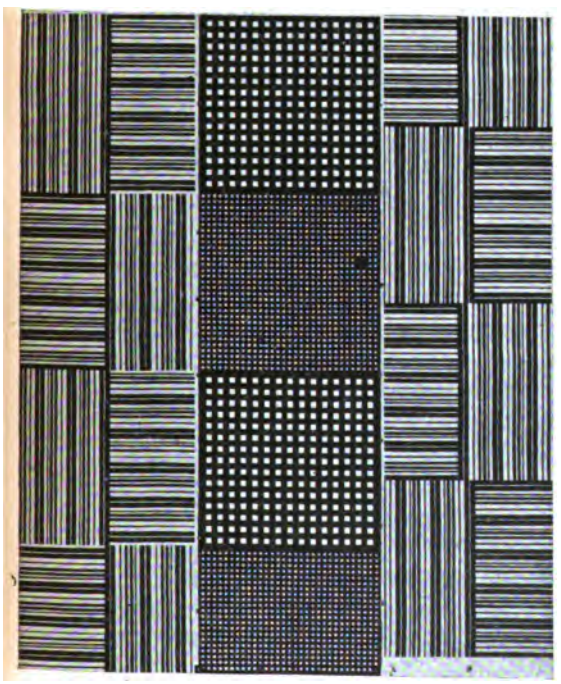
LENSES FOR HALF-TONE AND ALL-AROUND PURPOSES.

BY J. H. WEEKS.
[Weeks Engraving Company, Philadelphia.]

In a previous communication[1] on the employment of the Goerz double anastigmat lenses for the half tone process the principal advantage I claimed for them was that they admit of the use of much larger diaphragms than any other type of lens. A glance at the accompanying illustrations will readily show this.

Fig. 1 was made with an original Goerz

FIG. 1.

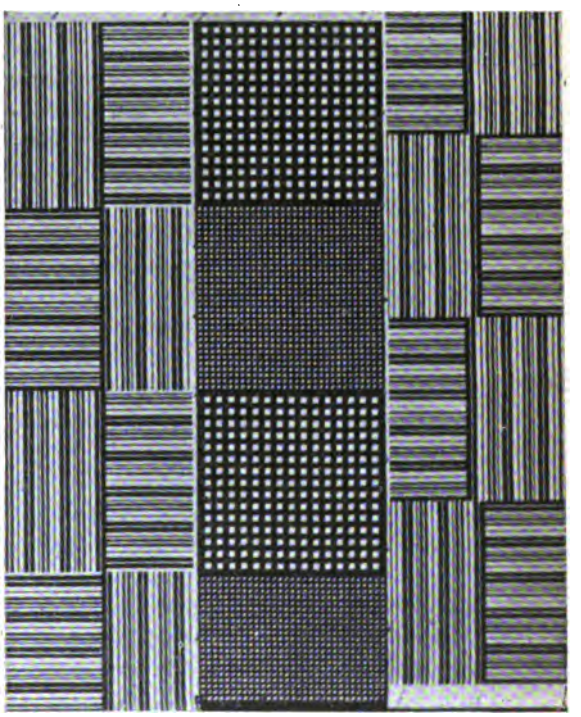


Made with a Goerz Double Anastigmat of 19 inch Focus. *F*/22.

double anastigmat of 19 inches focus, furnished by C. P. Goerz, 52 Union Square, New York City. The chart shown in the engravings was accurately focussed in the centre of the ground-glass, then moved to bring it in the corner of a 14 x 17-in. plate and exposed with the ordinary diaphragm *f*/22.

Fig. 2 was made in the same manner with a 17-inch rapid rectilinear, focussed at the centre and then moved to the corner of a 13 x 16-in. plate, but the exposure was made with *f*/44. *Even with the advantage of the smaller diaphragm* the work of

FIG. 2.



Made with a Rapid Rectilinear Lens of 17-inch Focus. *F*/44.

the rapid rectilinear falls far short of that produced by the Goerz anastigmat.

The practical worker realizes that the half-tone process is more severe in its requirements of a lens than ordinary line reproduction. We occasionally hear the reverse from some writers who lack experience. Given a medium grade lens the

[1] See the February, 1896, number of this MAGAZINE.

operator will get the necessary sharpness in his line negative by stopping down the lens sufficiently, but the half-tone process necessarily demands the employment of larger apertures, and therefore superior lenses.

While some who consider the anastigmats a necessity of half-tone may deem them luxuries for line reproduction, our experience is that the Goerz lens will permit of making the most excellent line negative with apertures about three to four times greater than our rectilinear lenses, saving time in exposure.

[NOTE. The tests here given may also be regarded as showing the advantages of the Goerz anastigmat for all kinds of photographic work where definition, covering power, and rapidity are required. We have found its claims well substantiated by our experience with this lens.—ED. W. P. M.]

A LETTER FROM MR. BELLSMITH.

EDWARD L. WILSON,

DEAR SIR: I am astonished to read your editorial, under head of "On the Ground-Glass," in which you state that the coming National Convention does not promise to be an intellectual one in any degree, and that apparently very little attention has been given to providing operative and practical instruction for the attendants.

Had you taken the very slight trouble of inquiring into this matter from me or any of my brother officers, before taking upon yourself the responsibility of advising your readers on a matter you patently were without information on, you would have been informed that no convention in the history of this Association has ever given the opportunity of practical demonstration and study in all that pertains to advanced photography as that provided for at the coming Chautauqua Convention.

An operating pavilion with the latest and most approved light is under construction and is to be equipped with modern apparatus and every facility for practical work under the light, with seating capacity so arranged as to give all who are interested full view and hearing of the work and methods demonstrated.

All operators present who have methods and theories of practical use to the fraternity will be invited and called upon to demonstrate them. While the expense of this enterprise is entirely beyond the financial resources of the Association, it is the free gift of the American Aristotype Company to the fraternity, and is certainly beyond any opportunity for study, exchange of ideas, and practical work ever offered before at a convention to my knowledge, I feel that the different photographic journals cover the ground of scientific research, yet this field will not be neglected, but more time will be given to practical talks and demonstrations.

The beautiful location of the convention this year, and the natural advantages for healthful recreation, combined with unusual entertainment offered by organized efforts of manufacturers, dealers, and demonstrators, to my mind does not in the least detract from the educational features, but affords the most pleasant conditions for the study of the art that could well be conceived.

While I do not care to pose either my brother officers or myself in an egotistical light, I can say that we began preparation for this convention very shortly after our election, and have spared neither personal time nor expense in working energetically and conscientiously to provide what I believe every attending member of the P. A.

of A. will fully appreciate and vote a profitable investment from the standpoints of education, health, and entertainment.

I, therefore, cannot but consider your article exceedingly ungenerous to the Association officers, and as giving an impression to your readers unwarranted by facts.

Very truly yours,

R. P. BELLSMITH.

CINCINNATI, May 12.

RECENT RADIOGRAPHY.

THE Röntgen photography, or, as it is now named, "Radiography," has already been developed into a process promising great usefulness. The intense enthusiasm and activity which have accompanied its development are, perhaps, the natural outcome of the widespread publicity given to every scrap of information concerning it which could be obtained. At first the results obtained by those who attempted to follow Professor Röntgen's description of his experiments were very crude, resembling the shadow pictures obtainable by the interposition of any opaque object in the path of an intense illuminant. As the properties of the X-rays became better known, however, the process was simplified, new helps were devised, and the results became more valuable and interesting.

Among the earliest experimenters in this country to see the possibilities of Röntgen's discovery was Mr. John Carbutt. Naturally Mr. Carbutt's interest in the discovery was awakened by the fact that the applications of radiography opened a new field of usefulness for the photographic plate. In his early work along the lines indicated by Röntgen, Mr. Carbutt became convinced that a dry plate specially prepared for the new form of radiant energy used in the Röntgen process would yield results superior to those obtained with ordinary plates. He therefore set himself to the production of such a plate; the result was the "Röntgen X ray plate" now on the market, the first of its kind in the world as far as we can ascertain.

Notwithstanding the remarkable vigor with which European workers have followed up the new process, the best and most interesting results we have yet seen are those produced with Mr. Carbutt's special plate. It is, therefore, not surprising to find that some of the foremost scientists, such as Tesla, Prof. Goodspeed, Prof. Morton, and others, depend on these plates in their experiments.

One of the greatest advances made possible by these plates has been the reduction of the time required for the exposure. At first an exposure of from thirty to forty-five minutes was essential to the securing of a printable negative. This rendered the process unavailable in many instances. Later, the time of exposure was reduced to twenty minutes, which was considered remarkable. But, during the past few weeks we have received from Mr. Carbutt radiographs of excellent quality secured with exposures varying from four and a half to thirty seconds, the Röntgen X ray plate being used in these experiments.

A wonderful achievement accomplished with these plates was the obtaining of a radiograph of the upper part of the body of Professor Goodspeed, of the University of Pennsylvania, of which we have examined the prints. Taking a Carbutt X-ray plate, 16 by 20 inches in size, he placed it on a table and then lay down on it. The plate was just large enough to fit between his shoulders. The fluorescent tube was placed over the body at a distance of two feet and the exposure made. The result, which appeared in the New York and Philadelphia papers of May 6th, exhibited an excellent likeness of the

skeleton of the upper part of the body of the subject.

The Franklin Institute Journal for April contains a valuable *résumé* of the results attained by American experimenters in radiography up to that date, including an account of Mr. Carbutt's work. The report is full of interest.

HAVE YOU READ *MOSAICS*, 1896?

BY W. G. WALKER.

IN the last number of the MAGAZINE I see an editorial announcement that "very few copies of *Mosaics* remain unsold." I am glad to see that the little annual has been so well appreciated, for, with many other practical workers in the craft, I think *Mosaics* is by far the most useful of the year-books published for photographers. This is not saying that the others are not well worth every penny they cost; but that for the earnest photographer, and especially for the man who is struggling up from a small beginning, I certainly believe that *Mosaics* will be found more helpful than all the others put together.

Look at the make-up of the book. Every feature is arranged and emphasized according to its value to the photographer. In place of the usual miscellaneous collections of papers on random topics, we have, first, a carefully condensed review of the year's work; next, a series of pithy original papers on "The Combined Bath," "The Preparation of Gold for the Toning Bath," "Carbon Printing," "Advertising," "Dark-rooms Without Red Light," "Retouching," and others of a like character. And the articles are not mere "space fillers" with fancy titles, but each one gives practical information and formulas. The article by Mr. Sherman, on the making of gold chloride, is one which every photographer should file for reference and use; it is a money-saver.

The third section of *Mosaics*, however, is the feature of greatest interest just now, when so many of us are busy preparing our work for the conventions. In this section we have a good collection of illustrated papers by the prize-winners of last year. The papers are short, but the writers, Stein, Morrison, Randall, Seavy, Bachrach, Somers, Judd, and others, are all master craftsmen, and what they say is full of help. The pictures, of course, are engravings of the prize pictures of 1895. It is the peculiar feature of *Mosaics* that it alone, of the annuals, offers a permanent record of the photographic work of each year which has secured recognition at the conventions. Photographers who are competing at Celoron, or at the State conventions, can gain a large measure of help by comparing their efforts with these examples of the successful work of the past.

Have you read *Mosaics*, 1896? If not, take the advice of a worker who got an early copy and has long ago made profitable use of the experience it offers. If I could not get another copy I would not sell the copy I have for five dollars, although it cost me only fifty cents. I have seen less valuable books at five dollars, but none so well worth its price to the working photographer as *Mosaics*.

A NEW kind of albumen paper has been introduced in Europe for the making of transparencies and lantern slides. The image is obtained by printing under a negative in the usual way. When toned and fixed the film is very simply stripped from its paper support and transferred to a piece of glass previously cleaned and albumenized.

CHLORIDE EMULSION *VS.* CHLORIDE OF SILVER DIRECT ON PRINTING SURFACES.

BY D. BACHRACH.

FROM an article by Dr. H. C. Stiefel in the May number of this MAGAZINE, on "Collodion *vs.* Gelatine," it seems to me possible, if not probable, that my objections and the discussions between Dr. Baekeland and myself have been directed to the merits and objections of one or the other of these print-out papers. I can hardly see how such an impression could have been received from my articles, as I most distinctly attacked the whole batch of "emulsion" papers for printing out, barring only the matt collodion papers thoroughly toned with platinum, completely converting what image was left into a platinum print, if possible.

The baryta substratum upon which Dr. Stiefel dwells, unnecessarily, it seems to me, was fully investigated, so far as I was able to do so, and Dr. Baekeland is certainly an expert on the subject.

What practical experience and the cyclone of fading prints in the last few years have shown is that the image on chloride emulsion papers, when printed out, is thin, lacking in substance, and utterly incapable of resisting the action of reagents to the same degree as the image on papers salted and silvered in the usual way. The baryta surface, instead of being a weakness, is rather in favor of the emulsion print, as it does not retain the hypo and other chemicals like the paper support, which is porous. Hence, as I have demonstrated, a well-toned, well-fixed, and reasonably well-washed albumen or plain salted paper print, handled with reasonable care, will stand tests under which the emulsion prints utterly fail. My tests, showing the quantity of gold present in prints by these methods, which anyone can verify, give substantial reasons why this is so.

The reason I did not answer Dr. Baekeland's criticisms of my method of making the tests with aqua regia 1 : 16 for dissolving the gold out of the incinerated prints is that it was unnecessary. The learned doctor rather astonished me by his very weak objections, and made me almost believe that he was "speaking to the galleries," for he knows, or at least ought to know, that continued action of such a solution on any sort of ashes from prints, containing gold in a form so easily acted on, will dissolve every particle of it, whether baryta is present or not. He knows, or ought to know, that a much weaker solution of warm aqua regia will attack and dissolve gold coin, which yields far less readily to its action than gold in the form treated in my tests.

Will anyone please explain why nearly all of the old collodion chloride prints on opal glass with an albumen substratum faded in a comparatively short time? How many are now in existence in any presentable form? This is a complete answer to Dr. Stiefel, who asserts, first, that "collodion coated upon such a substratum will give a perfect paper;" again, "a gelatine emulsion coated upon glass will not change, neither will a collodion emulsion." I say again that our experience teaches us most emphatically that this is not so, if they are used for printing out, and not developed. And it is of print-out papers that we are speaking, as, in spite of all efforts to the contrary, photographers will not use any developing process in their usual daily work for contact printing. Theoretically, it may seem very easy to do so, but it is

not within the province of this article to discuss that question, nor is it necessary, as we have absolutely safe and reliable printing-out methods. It is very evident that the coarser and more abundant chloride of silver produced by direct precipitation on the paper makes a more solid image, and one capable of reducing a much larger proportion of gold or platinum in the final image.

It must be recollected that we have not only the chloride but also the citrate to take into account in the emulsion, the whole producing perhaps a finer grain image, but one radically differing, as I have shown, from that produced by the older processes.

In conclusion I must state that from late experience with matt collodion papers, even the "Aristo-platino," it is only the prints made by carrying the platinum toning out fully that stand the test. Those toned to a warm purple or a little beyond the red with gold alone go precisely like those on the glossy collodion emulsion papers; in fact, I don't see why they should not, and per contra. I presume if the latter were toned to the olive black with platinum salts, like the matt paper, they would probably be equally permanent. The results, however, are not pleasing to the eye as are those on the matt paper. I trust that this discussion has not been considered a waste of ink and space.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XV. THE OWNERSHIP OF THE NEGATIVE.

To whom does the negative belong? This is a question about which, in general, not one photographer in a thousand cares to know anything. He has on his shelves all the negatives he has taken since he began business, or since the last fire, and for him that fact is sufficient proof of his ownership. And I suppose that every man who reads this paper will say that in this the photographer takes the right and common-sense view of the matter. But, as is well known, there are two sides to every negative; and, as is not so well known, there are two sides to the question: Who owns the negative? And when, as sometimes happens, the photographer is made to take a particular interest in the matter, by his right to the ownership of the negative being questioned in a legal way, then he wants the question answered definitely and without delay.

This is brought into prominence just now by the case of an Ohio photographer, who, much to his surprise, finds himself obliged to defend by process of law (which is another way of saying "by pecuniary sacrifice") his exact rights in negatives made some time ago in the ordinary course of his business. It appears that this photographer was required to photograph and supply prints of certain articles of merchandise to a local firm. The order was duly executed to the satisfaction of the customer, but the account rendered for the service was not paid. Shortly after this transaction took place the firm referred to transferred its custom to another photographer, and refused to pay the account rendered by the photographer previously employed until he had delivered up the negatives he had made to fill the firm's order. This he refused to do, on the ground that the negatives were his property, according to the general custom of the trade. Here, for the present, the matter rests.

I believe that every photographer will be interested in the judgment of the court before which this case is called. Life is short, however, and the ways of law are

proverbially long; moreover, it is not improbable that this particular case may be compromised, and so never reach the court; so I propose to look into the matter in a general way—looking backward.

First, the negative, and its two sides. It is obvious that before exposure the plate belongs absolutely to the photographer who purchased it. The rights which constitute ownership are those which confer the power to use or destroy the thing owned, or to transfer its possession to another. All these rights the photographer possesses in the sensitive plate he has purchased. When the plate has once been exposed, and bears the image of a person or thing belonging to another (in whom or which the photographer does not possess the rights of ownership), then it is evident that his rights in what was previously his property absolutely have been modified, or, to speak correctly, his ownership of the negative has been limited. It is still his, in that he cannot justly be compelled to transfer its possession to another, for a consideration or otherwise, unless he so contracted before operating the change in it, which limited his absolute ownership of it; and he may destroy it if he so desires; but he cannot make any use of the image it bears without the consent of the person in whom the rights of ownership in that of which the image is reproduced are properly vested. Neither has he, absolutely, the right to transfer the possession of the image to another without the consent of its owner. This act of transfer, however, is included in the right of use, and what limits the whole necessarily limits its parts.

Such are the simple facts necessary to a clear understanding of the question of the ownership of the negative; in their relation to the dual ownership which, as we have seen, may exist in the negative after its exposure, they sometimes assume an acute interest to those concerned.

We have seen that the ownership of the plate before exposure is clearly invested in the photographer. What is changed by the exposure? And how does this change affect the absolute ownership previously possessed by the photographer? The plate has been impressed with an image of something; the negative (the glass, film, image, and skill, which make it up) is still the exclusive property of the photographer, but the right to the use of the image is not his, belonging solely to the owner of the thing photographed, whether it be his personality or his goods; and the photographer's use of the image on his plate, whether as a means for supplying prints ordered, or for exhibition or publication, is limited by the consent, implied or deliberately given, of its rightful owner.

These important facts, although self-evident, are often ignored in the everyday practice of business. The photographer's ownership of the negative is, however, proved by the fact that he can and does sell his negatives in some cases when the customers to whose order they are made desire to hold possession of them. He may also refuse to sell them. Whether, in this latter event, the owner of the thing photographed can compel the photographer to so deface the image that it cannot be used for reproduction is not clear. So far as I can discover this point has never been legally decided.

The right of the owner of a thing photographed to restrain the photographer's use of the image thereof without permission has, on the other hand, been legally decided in many instances, which proves limitation in the photographer's rights in his ownership in the negative. It is true that, as in a case recently tried in a New England court, it has been decided that the likenesses of a public man or celebrity are the common property of the public in such a measure that he cannot restrain their publication; but the case of such a person

may be taken as the exception which proves the rule.

Let us now look at the custom of the trade in the matter. Generally speaking, the question of the ownership of the negative does not enter the mind either of the photographer or of his customer. From time immemorial the negatives made at the instance of the patron have remained with the photographer. Doubtless many of the photographer's patrons would be glad to have negatives delivered to them with their prints; but it is commonly understood that the negatives are made as an essential means for the production of the pictures, and as their orders are invariably for prints, the negatives and their disposal are rarely mentioned. With the photographer the understanding has always been that the negatives resulting from his business are to be retained at his pleasure, as part of his equipment, and as a probable source of future profit. Where a negative is made to be delivered to the customer by agreement, this understanding is abrogated for the time being, but such cases are exceptions to the rule.

In the early Talbotype days, when rarely more than one or two prints from the negative were ordered by the customer, this rule was as generally enforced as it is to-day. In wet-plate times the attitude of the photographer with regard to the negative was plainly indicated in the common practice of giving notice on the business letterheads that negatives would be preserved for a stated time only. And to-day the photographer's patrons are frequently reminded that: "Duplicate prints may be had at any time, as negatives are registered and preserved."

As a matter of course, when the photographer is called upon to make a negative of something, of which, because of its character or for some special reason, the owner desires to control the reproduction, an agreement is usually made for the delivery of the negative to the customer. In all branches of work, however, where no special arrangement is made regarding the negative, the latter is invariably held to be the property of the photographer, subject to limitations as to its use.

One of the clearest arguments used in defense of the photographer's right to the possession of the negative, is that which compares it to the printer's type. As the printer uses his type to fill the order of his customer, after doing which he can use the type in any way he desires, except to use the "forms" prepared for his patron in any way detrimental to that customer's interest, so the photographer uses and regards his negatives, bound by the same limitation. In the one case the customer pays for the setting of the type used to produce what he has ordered printed; in the other he is charged for the making of the negative used to produce the photographs he orders; in neither case can it be held that he has a rightful claim to the instruments required in the process by which his needs are supplied, these being properly regarded as the "plant" essential to the work. Against this it has been said that the negative possesses individuality, while the type is impersonal. This may be disposed of by supposing that the printer, for reasons of his own, makes a stereotype plate of the work ordered by his patron, which is analogous to the photographer's negative, yet the customer has no right to the possession of the stereotype plate unless it is made to his order or specially arranged for.

The custom of the copper-plate printing trade, whereby the engraved plate is delivered with the printed cards ordered by the customer, has also served as an argument against the right of the photographer to retain the possession of the negative. This is a poor argument, however, for where this custom prevails the announcement of the engraver reads: "So many cards, with plate, so much; without the plate, so much

(less)." The general custom of the photogravure trade is to insist that both the negative and plate made for the production of the photogravure prints are to remain the property of the engravers. It should not be forgotten that the "established custom of trade" is regarded by the courts as an unwritten law.

I had extracted from the photographic journals of the past ten years a number of judicial decisions bearing on this important question, with the intention of incorporating them in this paper. Already, however, the article is of tedious length, so I omit them, with the remark that, wherever the conduct of the photographer in dealing with such cases has been based upon the reasonable principles I have explained, judgment has almost invariably been given in his favor, affirming his right to the possession of the negative as long as the right of the customer regarding reproduction is protected.

Finally, the photographer should be careful to avoid making a distinct or even apparent charge for negatives when sending in bills to his patrons. The charge should always read "for prints." I have seen bills for photographic work reading as follows: "To making 6 negatives of house, $12.00. To 20 prints from same, $15.00." If such a bill is contested at law, the customer can unquestionably demand and obtain possession of the negatives as charged for in the bill. This is a point which should be remembered.

THE CONVENTION AT CELORON.

BEFORE the next number of this MAGAZINE appears the 1896 Convention of the National Association will be a past event. The time for preparation is therefore short. The Convention will begin June 22d and close on the 27th, a grand interval of five days being allowed for participation in all the social and educational features arranged for by the officers of the Association. No previous gathering of the craft has received so much attention from the fraternity as the forthcoming Convention, and it will undoubtedly prove to be the most popular meeting the photographers ever held in this country. From all sections we hear of preparations by those who will exhibit or attend in person. In several cities photographers have formed Chautauqua Clubs with the object of providing an especially good time during the days to be spent at Celoron. The circulars of information sent out by the energetic Secretary of the Association give assurance that the Executive Committee has done everything that could be done to promote the success of the Convention. We suppose that all who read this have received copies of these circulars, and therefore do not repeat their contents here. Those who have not received the circulars may get them by addressing Mr. J. Will Kellmer, Hazleton, Pa., to whom, also, all applications for space for exhibits should be addressed.

Apart from the various entertainments which have been planned to occupy the afternoons and evenings, a school of photography will be found equipped ready for the instruction of all who desire it. Operating, retouching, and printing with all the advanced methods will be taught under the supervision of some of the ablest men in the profession. All this is free to the members of the Association.

Only one word more is needed. Let every reader who is a professional arrange his business affairs in good time, and make sure that nothing shall prevent his attendance at Celoron during the whole of the time of the Convention. This may require some little planning, and perhaps a slight sacrifice of time and money; but the amount of good, in a social as well as a

business way, which is assured in return, far outweighs the disadvantages involved. To one and all, therefore, we offer the earnest counsel: Read carefully the circulars you have received from the Association advising as to railroad rates, routes, hotels, etc.; if you are an exhibitor, see that your exhibit, properly marked, is sent to the P. A. of A., Jamestown, N. Y., by June 15th; and be sure to be on hand at Celoron in person on the morning of the 22d, when the gavel of President Bellsmith thumps the presidential table to announce the opening of the Convention.

EXECUTIVE COMMITTEE, P. A. OF A.

OUR PICTURES.

A WONDERFUL amount of good photography is represented by our pictures this month.

"Dolce far Niente," is a companion picture to "In the Harem," which appeared in our last March number, from the studio of Mr. Louis F. Jansen, Buffalo, New York. Like its companion, it is an excellent illustration of the advantages of falling in line with "A Pilgrimage for Pictorial Effect in Photography," and is one of Mr. Jansen's most creditable productions. His work has already been made familiar to our readers. It is worthy of great praise.

Alice Bruce Stark is from a collection of gracefully managed 11 x 14 pictures sent us by Mr. F. M. Somers, Memphis, Tenn., and has been selected at this time as in touch with the article on "Feeling and Management," which serves as the "Letter to Jack" this month. It is a very superior portrait and will stand careful measurement from the critics. It may also serve as one of the attractions of the Convention at Celoron.

The "Gems for the Convention" were made for the exhibition by Mr. A. N. Camp, Jamestown, N. Y., and will serve as part of the puzzle for the jury to pass upon at Celoron.

These "Sweet Sixteen" all represent the choice work of Mr. Camp whom our readers know as one of our craft who bears a national reputation. We are glad to give in advance such a fine glimpse of what the fortunate visitors to the National Exhibition of 1896 may expect to see and have for their study.

The portrait of the late Chas. L. Pattison was made by Mr. Tomlinson, of Elmira, N. Y., and was etched, and after engraved by the A. C. Austin Engraving Co., Albany, N. Y. Particulars concerning this gentleman may be found on page 257.

OFFICIAL INFORMATION OF THE CONVENTION.

Railroad Rates.

The railroad companies have given the P. A. of A. unprecedented rates, as follows: West of Pittsburg and Buffalo, one fare for the round trip; east of Buffalo and Pittsburg, one fare and one-third. The regular fare east of Buffalo and Pittsburg is much less per mile than west of these points, so that one and one-third east is as good a rate per mile on the average as one fare west.

East of Buffalo and Pittsburg every passenger must secure a certificate at the time of purchasing his or her ticket from the ticket-agent, in order to secure a reduction on his return fare. For instance, from New York full fare of $9.00 for one way is paid at the time of purchasing a

ticket, and the certificate entitles you to return for $3.00, or $12.00 for the round trip.

West of Pittsburg and Buffalo certificates are not necessary, a special ticket being given for the round trip; but these tickets will be on sale only for two days, June 21st and 22d, good for return any time before June 30th.

Important to Remember.

If you live east of Buffalo and Pittsburg, be sure and secure a certificate on purchasing your ticket. Be sure and secure your ticket on Saturday if you arrange to leave on Sunday, as no certificates are issued on Sunday at railroad offices. If you live west of Buffalo and Pittsburg, be sure you leave on either Sunday or Monday, June 21st or 22d, as these are the only days on which one-fare-rate tickets are sold.

Special parties are being organized to attend the convention from all the important cities. Join one of these parties, as the trains will have special through cars without change. The rates from the principal cities will be as follows:

Rates for round trip, one full single fare going and one-third rate for return, with certificate, from Boston, $14.20; Providence, $14 20; Albany, N. Y., $9.53; New York, $12.00; Philadelphia, $13.07; Baltimore, $15.20; Washington, $16.80; Toronto, $5.55. From Buffalo and Pittsburg the regular excursion rates apply, viz., $2.75 and $7.00, respectively. Rates for round trip on single-fare basis are obtainable as follows: Cleveland, $4.25; Columbus, $8.40; Cincinnati, $11.00; Dayton, $9.80; Louisville, $14.50; Detroit, $6.75; Grand Rapids, $11.58; Chicago, $12.00; Indianapolis, $12.48; St. Louis, $17.75.

Hotels.

The large summer hotels at Lakewood and Greenhurst have given the rates of $2.50 per day, smaller hotels and cottages from $1.50 to $2.00 per day.

If you have not secured rooms, write immediately to C. E. Snow, Jamestown, N. Y., Chairman Hotel Committee. Tell him how many rooms you desire, the number in party, and the rate you desire to pay. He will locate you as near as possible in conformity with your wishes and notify you where to go before leaving home.

Entertainments.

The Committee on Entertainments has reported fine progress, and the proposed three evening entertainments given by the manufacturers, dealers, and demonstrators are now assured successes. Each night will eclipse the other, if possible.

The natural advantages and attractions of Celoron Park and Chautauqua Lake are too well known to comment upon. Without any extra entertainment, these alone would satisfy and make a week's stay too short.

Education.

A school of photography, conducted every afternoon in a building especially modelled for this purpose, with a modern light, complete apparatus and accessories, seating capacity for a large number within sight and hearing of everything that transpires under the light—an opportunity for practical work never before attempted at a national convention.

The officers feel gratified that their efforts have met with such favorable results, and are confident of satisfying every attendant that the money invested for the trip to Chautauqua has been well expended.

"PHOTOGRAPHY FOR ARTISTS" is the title of an instructive manual by Hector Maclean. It is illustrated, and contains much that will interest the illustrator. Percy Lund & Co., Bradford, England, are the publishers of the work.

ANOTHER VETERAN GONE.

COLONEL VINCENT MEIGS WILCOX.

Alas! We have to record the sudden death of another esteemed friend and veteran in our art. Colonel Vincent Meigs Wilcox, President of the E. & H. T. Anthony Co., died at his home, No. 1050 Lexington Ave., on Saturday evening, suddenly, from paralysis of the heart. He was at his post on Friday as usual. When we last saw him he was in tolerable health and full of generous schemes as usual, although for years he has been suffering from want of robust health. We have already given sketches of his life and work. He was born in Madison, New Haven County, Conn., October 17, 1828, and belonged to one of the oldest New England families. He was educated at Lee's Academy, in his native place, and taught school for several years. He afterward became a merchant. In 1860 he went to Scranton, Pa, and engaged in business.

When the war broke out he organized a company of the 132d Regiment, Pennsylvania Volunteers, which was immediately ordered to the front. He was made lieutenant-colonel, and his brilliant record as a soldier was mentioned in the history of the war written by Generals McClellan and Palfrey. He distinguished himself at the battle of Antietam, and when Colonel Oakford fell he took command of the regiment. He was promoted to the full colonelcy, his commission being dated from the time of the battle. He was taken seriously ill soon after, and before he had fully recovered again offered his services, but the surgeon refused to pass him, and he was compelled to retire from active field work.

Colonel Wilcox then came to this city and accepted a position with the E. & H. T. Anthony Co. In 1870 he was made a partner in the firm, and when it was formed into a corporation he was made secretary, vice-president, and president successively. He was a man of fine physique and an excellent speaker, and many of his addresses to his old regiment have been published.

Colonel Wilcox was an elder in the Phillips Presbyterian Church, Madison Avenue and Seventy-third Street, and one of the executive committee of the Presbyterian Union. He was also a companion of the Loyal Legion of the United States and a member of Lafayette Post, G. A. R.

A wife and two sons are left to mourn his loss. One of the sons is Dr. Reynold Webb Wilcox, well known as a physician and lecturer. The funeral was held Tuesday, May 12th, and seldom has the church where he was so well known and so much beloved contained an audience so touched and so universally in tears as at the obsequies of this noble man. Our craft was represented by the best known men in it, from near and afar.

Testimonials of regret and esteem are already coming in to us, which we shall endeavor to frame as a tribute to the memory of our mourned friend and companion for record in our next number.

THE Photographic Association of Belgium has recently held a most successful exhibition, to which prominent photographers of all countries sent examples of their work. Although no prizes were offered, 2300 exhibits were submitted, of which only 500 were accepted. Of the 182 exhibitors whose work was honored by acceptance, 11 were Americans, 46 Belgians, 59 British, 31 French, 11 Austrian, and 25 of other nationalities.

EDITOR'S TABLE.

THE WALPOLE CHEMICAL CO., Walpole, Mass., with its customary enterprise, has just issued for free distribution among photographers a very useful little manual of reliable formulas, information about hypo-soda, and other chemicals in everyday use in the studio. Every photographer should possess a copy and consult its pages daily. It may be had for the asking.

WE have received from Messrs. ROSS & CO., London, copies of their 1896 Catalogues, NOS. 1 and 2. The first contains a complete list of the Ross, Ross-Zeiss, and Ross-Goerz lenses, together with the field, studio, and process cameras made by this well-known firm. Lanterns, prisms, mirrors, and hand cameras are also listed. The second catalogue is devoted to Messrs. ROSS & CO.'s microscopes and other scientific instruments. They are valuable as reference books. Copies may be had from Messrs. ROSS & CO., at 15 cents each. Mr. G. GENNERT is the American agent for all of ROSS & CO.'s specialties.

THE new *Chemical Price List* just issued by CHARLES COOPER & CO., 194 Worth Street, New York City, quotes the present market prices of all the chemicals needed in photographic and process work. It should be seen by all interested.

A GOOD article is always worth its price, and often proves a bargain at that. This is true of the famous Semi-Centennial Camera Stands, for which Messrs. HORGAN, ROBEY & CO., Boston, are trade agents. Over 700 photographers are now using this stand, and we can recommend it without reserve. All dealers sell them.

Mr. G. GENNERT, 24 East Thirteenth Street, New York, has put on the market chemically pure platinite salt, made by a firm of manufacturing chemists in Europe. Those who have experienced trouble with the platinum used in toning will do well to give this guaranteed article an early trial.

PHOTOGRAPHIC STUDIES BY FALK.—As we anticipated, the demand for the series of studies by Mr. B. J. FALK, which we published two months ago, resulted in a speedy clearance of the large edition prepared. Orders for the second series are already in hand in such numbers that a large part of the edition is already well disposed of. This second series consists of forty-eight new and original studies from Mr. FALK'S recent work, selected for their suggestive value to the photographer who seeks ideas in posing, lighting, and arrangement of his sitters. The latest collection is entirely different from the first edition, and offers a fine selection of subjects, such as full and three-quarter-length poses of men and women, young and old; groups, children, figures, fancy and plain portraiture. It is worth ten times its cost to the photographer who will intelligently study the pictures of which it is made up. The prints are actual photographs, made on glossy bromide paper, by the process of the Automatic Photograph Company. Each picture measures 2¾ by 1¾ inches, and faithfully renders the fine qualities of the original negatives. Orders for the second series should be sent in without delay to prevent disappointment. The set of forty-eight studies is sent, postage free, to any address, for one dollar. See advertisement.

A NEW and easy process for making half-tone engravings has been worked out by Mr. J. B. ERWIN, New Comerstown, Ohio, which enables the photographer who desires to secure the local business in engraving to do the work without the expensive equipment needed for the working of the process methods commonly employed. We will give further particulars of the process, with specimen prints, in our July number; meanwhile those who are looking for an easy method of making engravings for the printing press should see Mr. ERWIN'S announcement in our advertising pages.

A SECOND edition of the *first series* of FALK Photographic Studies is being prepared to meet the still active demand for this series. The pictures of series one and series two are entirely different, but all are equally attractive and useful. By sending your order for both series, accompanied by $2, you can secure, postpaid, 96 examples of the best work of one of America's leading photographers. This is a wonderful opportunity for those who are ambitious to excel in their work.

Solarisation of Dry Plates. A valuable article on this subject was received from the author, Dr. R. E. Liesegang, Dusseldorf, too late for insertion until our July number.

THE KIRKLAND LITHIUM PAPER COMPANY, of Denver, Col., has put on the market a new malt paper which gives pictures closely approximating the original platino-types. The paper is coated with a hardened fibre, and yet is flexible. Samples may be had by applying to the manufacturers.

In reply to inquiries made on behalf of correspondents whose attention was attracted by the article on "Carbon Enamel Pictures" in our last issue, we learn that these prints are made on the regular glossy paper of the Kirkland Lithium Company. The emulsion is so made up that it is capable of producing a great variety of tones, among them the now popular olive tone, which may be obtained with the formula given in the article referred to. Lithium paper has proven itself to be one of the best obtainable, and its popularity increases as it becomes better known.

MESSRS. J. B. COLT & CO., 115 Nassau Street, New York, are now ready to supply lecturers, educational institutions, and others with their new Triple Stereopticon for use with Mr. GRAY'S natural-color lantern slides. This ingenious instrument is of the most improved type. It is suitable for the use of ordinary, plain, or colored (single) slides, as well as the triple slides used in Mr. GRAY'S process of color reduction. The lantern is a compact combination of three-lantern systems, one above another, occupying but little more space than the ordinary lantern. In a future issue we hope to present a full description of it, with an illustration. Messrs. COLT'S advertisement on another page will be found worthy of attention. Daily exhibitions of Mr. GRAY'S colored pictures, projected by this Triple Stereopticon, may be witnessed at Messrs. COLT'S uptown office, 59 Fifth Avenue; this is a photographic treat which all interested in color photography should see.

SCARCELY more than ten years ago we were told that photographic lenses could not be made in America. At that time the BAUSCH & LOMB OPTICAL COMPANY, of Rochester, N. Y., placed on the market their first photographic lenses. They have just informed us that they have now made and sold 50,000 lenses. This astonishing number does not include the tens of thousands of single view and other lenses used for similar work.

It may be noted in this connection that BAUSCH & LOMB were not novices in lens-making when they took up photographic lenses. They already enjoyed a reputation, extending beyond national limits, as makers of the highest grade of microscopical objectives. It is not to be wondered at that the same careful and accurate methods when applied to the production of other objectives should prove equally successful.

MR. FRANK M. PICKERILL, well known to the fraternity from Maine to California, has undertaken the management of the EXCELSIOR DRY-PLATE COMPANY, Rockford, Ill. The result is bound to be a stir up in the dry-plate camp. We wish him every success in his new enterprise.

ANTI-TACHE is a novelty which all believers in pyro will welcome. It is a preventive of stains; more than this, it cures cracks and sores of the skin, and keeps the hands soft and healthy. "An ounce of prevention is worth a pound of cure"—get a jar of Anti-tache from your dealer (25 cents, post free), and bless Messrs. JAMES H. SMITH & CO., of Chicago, for introducing so desirable a helper for daily use.

An Error Corrected.—The warm weather of the latter part of April was doubtless responsible for the printer's error in our May number, by which Dr. NICOL'S review of Prof. PIAZZI SMYTH'S collection of cloud pictures was made to read awry. To get the sense of what Dr. NICOL said, the reader must refer to page 217, and read as follows, from the word "have," the last word of the third line from the bottom of the page:

"fully realized the greater difficulty in removing soluble salts from the thicker film, and he may rest assured that the crystals formed on his negatives are simply sodium hyposulphite, that should and could have been removed by sufficient washing.

"In the same way, the 'sickly green' to which he refers is a result of insufficient fixing. It is now and has for a long time been well known that a negative is not fixed as soon as the silver bromide disappears. The unacted-on sensitive salt has only at that stage been converted into the so-called double salt, silver and sodium hyposulphite, insoluble in water, and therefore irremovable by any amount of washing, and if left in the film assumes the appearance of a yellowish-green stain by the action of light. It is, however, readily soluble in a solution of sodium hyposulphite, and in that state soluble in water and easily removed from the film by sufficient washing. If then the negative be left in the fixing bath for at least five minutes," and so on to the end of the article.

OWING to unusual pressure on our pages this month we are compelled to hold over many things of interest for our next number.

A. N. Camp. *Jamestown, N. Y.*

GEMS FOR THE CONVENTION

PHOTOGRAPHIC STUDIES (By Falk)

8 of the first series of 48 published by WILSON'S PHOTOGRAPHIC MAGAZINE

PRINTS BY AUTOMATIC PHOTOGRAPH CO., N. Y., ON NEPERA BROMIDE PAPER.

July

PRINTS BY AUTOMATIC PHOTOGRAPH CO., N. Y., ON NEPERA BROMIDE PAPER.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. JULY, 1896. No. 475.

ON THE GROUND-GLASS.

WHILE these reflections of *The Ground-Glass* are being carried to their destination the Convention at Celoron is about closing its labors, and the conductor of *The Ground-Glass* will be on the return trip to his dark-room, laden with matter and mind which will be filtered and boiled down for our next number. It has been decided that it is better to thus defer all report of the Convention rather than delay our current number for a few days and in it presenting only a hurried, unsatisfactory, and incomplete account of Convention happenings. This course will delay the receipt of the tidings in some cases, but it will also secure to all our readers *the best* report of what now promises to be a notable convention.

It may not have been discovered, but *The Ground-Glass* is a "specialist." It is naturally an amateur, yet the chief aim of all of its efforts is to be of profit to the practical photographer—he who must gain his livelihood by means of his camera—he upon whom the proud name of our art leans for its future existence. In the last number somewhat was written concerning the influence of environment, atmosphere, and thought. Will you take a few more suggestions as to the latter?

A wise psychological writer has said that "true education consists in training the thought to train itself." This is just as much so in photography as it is in morality. Some tongues we know are "unruly" and ungoverned; they lead to dreadful complications. Equally mischievous are some imaginations. "Thoughts are things," and the "things" which follow the "thoughts" of some photographers are so very dreadful that they should be treated to a solution of the "grievous crabtree cudgel," whioh John Bunyan has handed down to posterity.

These thoughts have been called forth by a recent published account of the discoveries of a noted scientist at the Smithsonian Institution. (Note that his experiments were made close to the monument of Daguerre, placed there a few years ago by our craft.) In the recorded statement of this gentleman is found this:

"I have discovered that bad and unpleasant feelings create harmful chemical products in the body, which are physically injurious. Good, pleasant, benevolent, and cheerful feelings create beneficial chemical products which are physically healthful. These products may be detected by chemical analysis in the perspiration and secretions of the individual. I have detected more than forty of the bad and as many of the good."

This is a remarkable discovery in

psycho-physics, and may, *The Ground-Glass* suggests, be usefully applied in operative photography.

Let a case be supposed: *Place*, Celoron. *Time*, midnight. *Occasion*, the report of the judges upon the exhibits. *Environment*, the four walls, floor, and ceiling of a thirteenth-story room of the —— hotel. (*The Ground-Glass* does not feel at liberty to advertise the hotel.) *Present*, company of five exhibitors and one who was not an exhibitor. All are perspiring, not on account of the heat, but because of the thoughts they hold concerning the decisions of their fellow-craftsmen whom they elected to pass upon the exhibits and to whom they should accord honor and respect and gratitude. If samples of their perspiration are passed upon by the psycho-physicist, he may from his results point out:

1. The man who is sorry that he exhibited.

2. The man who declares that the judges were bribed by some paper or plate-maker.

3. The man who claims that he should have had a gold medal instead of a bronze one.

4. The man who rejoices in the award to him of the first prize, unexpectedly.

5. The man who thinks that "medal-giving is a fraud any way;" and

6. The lovely non-contestant, who wishes he had "enough medals to go around—a choice for everyone," and that all the judges could have monuments.

This is very wonderful, though all so natural and reasonable.

The case supposed is not an impossible one, and *The Ground Glass* wishes to be taken seriously, for here is the point: If for every bad emotion there follows a depressing and poisonous chemical change in the body, a *good* effect should follow our good thoughts. All this being so, then good work should result from good thoughts. "Every thought which enters the mind is registered in the brain by a change in the structure of its cells—a physical change," declares our psycho-physicist. "Anybody may go into the business of building his own mind. The thinking organ undergoes perpetual changes in cell-structure, and is never finished."

Further thought upon these declarations will give us proofs. Anyone who has been privileged to wander among the galleries of the old masters must feel that only those possessed of unusual spirituality could have created such divine expressions. As has been eloquently declared: "The pure and matchless art of the devout monk, Fra Angelico, by which he was able to depict angelic beings with such beauty and delicacy, was the natural outcome of the spiritual atmosphere of love, joy, and harmony in which his consciousness made its abode. He created the world in which he lived and the base and false had no place in it."

What then may the photographic artist not accomplish in moulding his work if he but think properly of his possibilties—if he but *train* his thoughts?

"Ah! yes," answers the untrained worker, "but how is all this be done?"

Again we may gather a hint from the scientist. He says: "Systematically devote an hour each day to calling up pleasant ideas and memories. Try to summon those finer feelings of benevolence and unselfishness which are called up in ordinary life only now and then. Make this a regular exercise like swinging dumb-bells. Gradually increase the time . . . per diem. At the end of a month a surprising change will be found. The alteration will be apparent in both actions and thoughts. . . . One result will be to

increase and quicken the power of original thinking. In other words, inventions can be made to order and discovery can be promoted. Genius has been an accident hitherto; in the future it will be created systematically."

Here is an exposition of physical science as given by one of its most eminent experimentalists. Photography wants all the aids and helps it can acquire to enable it to keep its place alongside of the kindred arts and sciences. Why may we not apply this new thought? It is true, and more than once has been stated in these pages, that some time every day systematically devoted to thoughtful reading and study of art principles, and some time every year devoted to the production of one picture which shall be the revelation of the year's reading and thought, will be clear gain and result in better productions ever after. Seriously try it, and hold fast to it if it is good.

Of course the intelligent photographer knows that the thoughts of others who have had experience in his vocation provide him with an unrivalled means of stimulating good thoughts on his own part. The article from the facile pen of Mr. C. Ashleigh Snow which appears in this number, entitled "The Beautiful: How Am I to Seek It?" will, therefore, prove acceptable. Not only are the pleasures of "Dreamland" presented to us in enchanting style, but the earnest business of Thoughtland is likewise imposed in unmistakable terms. Mr. Snow is a veteran in experience, a true artist in feeling, and a hearty sympathizer with the photographer. Moreover, *The Ground-Glass* personally knows that he feels "a nearness" especially to the disciples of thought.

The Ground-Glass, imbibing the spirit of its conductor, usually faces facts promptly, and as a rule is happy in being able to send a helpful thought to almost anyone who is in technical difficulty. But a case has come up recently which requires help from the fraternity at large. A general alarm is hereby rung, and quick answers will be welcome. Here is the case:

"*Dear Ground-Glass:* Yours at hand. I am much obliged for your frequent help. If you will permit, I would like to ask you to publish a picture in your valuable MAGAZINE of a man and wife who have not had a picture since before they were married, say some thirty years or more, or a young country jayhawk and his best girl who will sit down in front of your camera and have about as much expression in their faces as two bales of hay. I would like to get some wrinkle that will enable me to get a decent picture from such subjects. It will help many."

Having no such pictures to engrave, appeal to the multitude is made for a supply.

For the ones who cannot exhibit or go to the conventions:

TELL IT OUT.

Don't sit down and wait for trade,
'Tain't the way,
Get a hustle, make a show,
Push your business—make 'er go,
Don't sit down and wait for trade,
'Tain't the way,
'Tain't the way.

If you've anything to sell,
Tell it out,
Let your neighbors see you're "fly,"
Get up "bargains," don't say die,
If you've anything to sell,
Tell it out,
Tell it out.

Folks won't know you if you don't
Advertise,
Keep things movin' every day,
Talk about it—that's the way,
Folks won't know you if you don't
Advertise,
Advertise.—*Buffalo News.*

A TOPICAL QUESTION ANSWERED.

BY D. BACHRACH.

To the Editor of WILSON'S MAGAZINE,

DEAR SIR: Permit a question from a subscriber. Some years back I dropped albumen paper and took up the prepared papers. I have used both collodion and gelatine; the former I was obliged to drop on account of the rough usage that prints are subjected to by many of my patrons. Have used gelatine ever since, using separate toning and fixing baths. I have got used to it, and like the results, except that prints made two years ago have a dingy overtoned look, some greenish, and all more or less lighter in shade. Is gelatine paper incapable of making permanent prints, or is the fault in my manipulation?

Five years ago I tried some of the old Bradfisch aristo paper, and the prints on it have held well. Why should that make hold better than the best of the recent brands?

What would you advise me to do? Drop gelatine and adopt collodion with its delicate surface, or go back to albumen paper?

The new matt papers do not seem to "catch on" with my trade, and my patrons will take glossy prints every time in preference to albumen, which I still use for large work.

Yours, etc., F. W. TYLER.

MORGANTON, N. C.

THE above letter, which is a type of many lately received, has been sent to me by the editor with a request for an answer that will cover the ground on the questions asked in it.

While I am perfectly willing to serve the readers of this MAGAZINE, especially in a manner that will conduce to the advancement of the profession out of which most of the readers, including myself, must draw their sustenance, I must decline to make repetitions of articles recently published both for the sake of the publisher and the readers. If Mr. Tyler will go over the articles bearing on this very question, published in this MAGAZINE in the past eight or nine months, he will find his questions fully answered. I have nothing to take back, very little to add.

The business state of the profession at the present time is enough to cause chronic pessimism; in my belief, not the smallest part of the cause lies in the question that Mr. Tyler proposes in his letter. I will here again tell him and all readers of this MAGAZINE that we finally and for good banished glossy emulsion papers from our studios last summer, have reinstated albumen paper, and I feel that I would rather go out of the business than go back to them.

Below will be found again a copy of the little circular we have been giving out with each lot of pictures. No further explanation is required by our patrons.

"NOTICE TO OUR PATRONS.

"It will be observed that these pictures are the strong, well brought-out albumen paper prints, with a medium polish, similar to those we made up to three years ago, and which a twenty-five year test demonstrated to be permanent when made by reliable photographers, and are not the extreme high gloss aristo prints with a hard marble-like appearance, so much used of late.

"We have returned to this more expensive and troublesome process because the last three years' experience has shown not only the great liability to fade and defacement by rubbing and scratching of prints made on the high gloss papers, but it has also demonstrated the better artistic quality and truer resemblance to human flesh of the albumen prints. We have, therefore, considered it the interest of our patrons, and incidentally our own, by the greater value attached to such productions, to discard what we consider an inferior process, and return to that which years of experience has taught us to be the best.

"Anyone having high gloss prints made by us in the last two years showing signs of fading can have the same replaced with albumen prints without charge."

I will now revert to his assertion that he cannot make his patrons take to matt surface aristo-platino pictures. Is it not due to the fact that he is using the same negatives from which he prints his gelatine-aristo pictures? And if these negatives are of the class that make good glossy paper prints I do not wonder that they want no matt paper prints from them.

Now let me give a piece of advice to our friend. Try for a while making plucky, brilliant negatives, with good, well-defined shadows, such as will make good albumen prints of "ye olden time." Let him make one print with each dozen ordered, on aristo-platino paper, for instance. Make the print strong, very much darker than the albumen paper prints. Tone it first just enough in a weak, neutral, gold bath to clear the whites, but not tone it to any extent; then put it in the platinum bath until it reaches the olive-black tone. If the print is dark enough and the platinum bath made of the strength usually recommended, there is no danger of over-toning. If the print is not dark enough in the first place, it will be hopelessly bleached before it reaches the olive-black. The platinum salt may be either the Willis & Clements or the "E. A.," made acid with phosphoric acid, as per the formulas furnished. This acid seems to be best for olive-black tones. If our friend will make such negatives and such prints from them I do not think the majority of his customers will prefer the glossy paper.

Now a word about albumen prints. They will often come out "woolly," though in an artistic sense it is not objectionable. But it can be avoided in most instances by adopting the plan we have for avoiding the small tiny blisters that often form. We put our prints as soon as toned in a dish containing equal parts of water and alcohol, and from this we put them in the fixing bath. This treatment seems to obviate all blistering, and we also treat them after fixing in the manner prescribed by Mr. Sherman in a former number of this MAGAZINE. If he wants very high gloss (which we care nothing about), so that his patrons will hardly see the difference as compared to his gelatine paper, let him roll his prints, before becoming thoroughly dry, on the cold roller. This solidifies and smoothes the albumen surface; he can then let them dry hard, and burnish them on the hot roller after spotting out. Thus a much higher gloss will be obtained than if the preliminary cold rolling had not been done. I am not surprised at his experience in emulsion prints fading, turning all colors of the rainbow, etc., as that was the cause of our giving up those papers. As to collodion papers, he will find them no less objectionable for the reasons partly stated in my latest article on the subject.

I could give him tolerably satisfactory reasons why the Bradfisch paper prints of five years ago did not behave so badly, but I will only say that that kind of paper is not made now, because such emulsions do not always come out uniform, and cannot be relied on in manufacturing large quantities of paper. He could make such emulsions himself and coat by hand, as I have done, but no two batches will be alike; for emulsions very rich in silver chloride, with but a small quantity of citrate and heavy in gelatine, will yield prints that stand more like albumen; but such emulsions must be coated as soon as mixed, and even then will not yield as pretty or smooth prints as the emulsion papers now made; hence, he might as well use albumen paper, which is pretty uniform in quality throughout the year.

I must confess that I like the olive-black prints on aristo-platino paper more and more, as they are soft as well as rich, and, when printed as directed, retain all the detail in the negative. So far as I have been able to determine they will stand as well as the best albumen prints, possibly even as well as thoroughly toned plain paper prints of "ye olden time."*

* After comparative tests with albumen and aristo-platino prints made since the above was written, I incline to the opinion that the permanency of aristo-platino prints was not proven, the albumen prints remaining unchanged while the others show decided discoloration.

THE BEAUTIFUL—HOW TO SEEK IT.

BY C. ASHLEIGH SNOW.

How am I to seek for beauty in my pictures? The question is an important one, too important to be answered by letter, as hundreds can be instructed by the help of the MAGAZINE as easily as one can be reached by correspondence. In this article an attempt will be made to lead the craftsman yet further toward the shrine of the beautiful. To one and all I would say that the true and artistic employment of color can be ascertained by the constant study of the best works obtainable of the men mentioned from time to time in these pages. Then must follow personal persevering practice of what has been noted as seeming excellence in such work. To particularize: An attempt to secure mystery must be made. Lafarge, the artist, says: "the variety of dreamland into which we enter depends upon the manner of opening the gate thereto." Beauty in your work will be evident, or lacking, according to the measure of intellect employed in its execution.

To enable one to translate the crude facts of life in a suitable manner there must be an atmosphere of mental refinement. The untrained eye sees that a man is a man, and perhaps that a face is a face; but it does not discern the shadows or lights upon form or features. Cultivate it to some degree of artistic power, and it will see shadows distinctly, but only the more vigorous of them. Train it still further, and light within light, and shadow within shadow, will be seen, until at last it will find delight in *gradations* imperceptible to the untrained eye. These gradations, then, must be sought for carefully, as they are the last parted with as the objects retire into distance.

There must be what Ruskin calls "truth of space." The infinity of things prevents a clear view of anything. All things, large or small, have mystery, and the question to solve is at what portion of the object mystery or roundness begins. As one illustration from flat objects: toss an open book and a white embroidered handkerchief upon a lawn. Retire a few hundred feet; if nearly of a size, who can say which is which? Here then is the point of mystery for the *whole* of things; there seem to be simply two white spots. Advance a little, and we become aware that one is a book and the other a handkerchief, yet one may not read the title of one or trace the embroidery on the other. For the whole, then, the mystery has now ceased, but commences now with the details. A nearer inspection enables us to read the text and trace the embroidery, but yet the fibres of the book page and the threads of the design are invisible. Mystery has now taken a third place. Thus much for one of the most important constituents of a beautiful picture, yet one almost ignored by process craftsmen generally.

An artist, then, paints objects at various distances as he *sees* them, not as he knows them to be. You know, for instance, that the book you tossed upon the lawn was a Waverly novel, and that the handkerchief exhibited your monogram; but how absurd, if you had painted the view at a distance of two hundred feet, to attempt the monogram upon the handkerchief or the name of *Ivanhoe* upon the lid of the book, yet the lens that can convey the most of this absurdity is the one most lauded, and it costs the most lucre.

How am I to acquire this art? you ask. Sit down before some common familiar thing. A bookcase, not your own, with books in bindings of red, yellow, and green; the case surmounted by a vase of

peacock feathers. Sit at a distance of twelve to twenty feet; paint the books, their bindings and titles as they appear to you, no matter what the titles are, paint as you see them, giving the look of neat lettering, but yet absolutely illegible. Paint the feathers as they appear to your eyes, half closed, yet not a filament must be delineated. You will now admit that all lens-like painting is bad art, and that, as we live under the law of obscurity, we must obey that law in order to have our pictures right.

But do great artists paint in this way? Certainly, the greatest! Veronese, Titian, Tintoretto, Corregio, Turner, Velasquez, Corot, Diaz, Daubigny. Shall I lengthen the list? And can you oppose any pre-Raphaelite names or pictures to mine? If so, will a jury of artists give yours precedence? All great painters whose works live and are treasured exhibit a peculiar melting and mystery in their pencillings—called by some softness, by others freedom, and by others breadth. The Barbizon school of painters give remarkable examples of this quality. Go to any library in your city, and look up *Harper's*, *Scribner's*, or the *Century Magazine* of the past fifteen years, and you will be filled.

"The photograph looks so beautifully clear and sharp," you say. This, in the eyes of the writer, is a glaring fault. It need not look so upon the ground-glass, and it need not be so printed from by any one who has perused the pages of this MAGAZINE to any purpose. Photography enormously exaggerates shadows, and loses detail in the lights; and it fails entirely to record natural effects, which to artists are precious, and for which they chiefly aim. There is much art in focussing correctly. There is more art by far in the selection of a suitable effect for a picture. Says Hamerton: "An artistic impression is not given by a place, but by a place and an '*effect*' together." "The material earth and structures therein are like the dry bones of a skeleton when the soul that gave them unity has taken flight." The power to represent effects is the superior power in painting. It arouses or soothes the feelings like music. It ennobles the humblest materials, while it adds grandeur and dignity to the grandest. If the picture transmitted by the lens does not please when seen upon the ground-glass we are not forced to accept it. At some other hour, upon some other day, it may be beautiful, and we can bide our time. Again, if it should seem too clearly defined this is your opportunity to secure truth of space. Unscrew the back lens a half turn and try the appearance then upon the screen. Perhaps a full turn will be better. If so give it all it needs. No one will arrest you. There is a type of Ross lens that is said to be especially arranged for such manipulation, and it is said that many of J. E. Dumont's prize winners were made with such a lens. Closely interwoven with the influence that effect will have upon the beauty of your picture is that of cloud forms upon the composition as they exist at the moment of exposure. These merit all the consideration you can give. Some experimentalists advocate the use of a green and a yellow screen for clouds, but the officers of the U. S. Government Observatory at Washington long since decided that a cell filled with solution of bichromate of potash was most reliable. These cells, optically plane, of course, can be filled in any country, and this chemical can always be obtained. A saturated solution is filtered and used in front of the lens with a few drops of HCl added for light clouds and pale blue sky.

Cell No. 2. Fill with solution diluted to one-half strength for a really blue sky, with well-lighted and detached cirrus clouds.

Cell No. 3. One part saturated solution and three parts water for very luminous cumulus and cumulus-nimbus clouds.

Use good fresh orthochromatic plates. Focus on a distant house with screen in place. Give quick exposure and develop far, with old, weak developer. I use quinol with ferrocyanide of potash added, and citrate to hold back if needed.

The cloud classification of Prof. Howard is as follows:

1. Cumulus or heaped clouds. It is a daytime cloud, and its place is in the mid-regions of the air.

2. Cirrus or curled clouds. These are beautiful forms floating above the mid-regions of the air. If dampness increases they sink to lower levels and form into a stratum, and are called

3. Cirro-stratus or thread clouds.

4. Cirro-cumulus or curdled clouds, formed from the third class as the weather grows finer and they become broken up. This is the sweetly mottled sky of summer. Often these clouds appear mixed with the cirro-stratus.

5. Cumulo-stratus, a combined stratus and heaped cloud.

6. Nimbus or rain cloud. This class of cloud is born from No. 5.

These are the clouds of hot weather, and are often grandly beautiful.

If highly colored, a slow Carbutt B. 16s. plate, bathed in weak erythrosin solution of alcohol, with yellow screen, and dilute developer, with short exposure, will secure them. The horizon-line must always be included on the cloud plate, and a short-focus lens used. Clouds should never overhang or obtrude themselves in the view. As one writer has said, they must only be an aerial echo of the scene below. Generally in photography the clouds get the worst of it. Whether we like them or not, there they are, and Nature fills by far the greater space of the habitable earth with them. Systematic avoidance of them by the photo-process man brands him as a narrow mannerist. If they are absent from the view when other shadows are included in the effect below, no claim for the beautiful can be made. It matters not what has been in the past. If you are in earnest you will manfully attack the cloud problem, trusting to your honest labor to invest your work gradually with interest for others, by the tenderness that comes of love of the work and the mystery that comes of power. "It matters not," says Ruskin, "with what wise purposes or on what wise principles the thing is drawn, if it be not drawn for the love of it it will never be right; love's misrepresentation, even, being truer than the most mathematical presentation. If the artist works with a hearty love of the place and an earnest desire to be faithful to it, yet with heart ever open for every fancy that Heaven may send him, in that precise degree his work will be great and good.

Now there are advantages offered by color for securing beauty in pictures far beyond any that chiaro-oscuro affords, and herein lies the incentive for study and for the mastery of the color problem for the craftsman.

1. Color pictures have in greater portions absolute truth. In coloring shadows are right, while in chiaro-oscuro alone both are unnatural.

2. The relations of color are broader than those of light and shade.

3. The delightfulness and nobleness of color in the picture are increased exactly in proportion to the quantity of light and lovely color introduced into the shadows, as opposed to the funereal blackness of the half-tone and the full-tone methods.

What a world this would be if all the flowers were gray, all leaves black, and the sky brown, as photographically pictured. All completely organized men love color. It is meant for their perpetual comfort and the delight of the human heart. It is richly bestowed on the best works of creation, and is the evident sign

and seal of perfection in them. "The man who can see all the grays, reds, and purples of the peach will paint the peach rightly round and right altogether, but the man who has only studied its roundness may be unable to see its purples and grays, and if he does not he will never be able to get his picture to look like a peach; hence great power over color is always a sign of large general art intellect.

Now the right of being a mysticist is not one to be lightly claimed. It is founded upon long and patient effort to be intelligible. We can see now how noble mystery and the ignoble are yet continually mistaken for each other. Artists who ape the noble art-mystery taking pride in work which is simply slighted, ignorant, and empty, while all noble language mystery is reached only with intense labor."

For the cap-sheaf of the whole I place the proper use of complementary color. If you find difficulty in placing complementary color you can construct a spectrum for yourself that will answer for a beginning. The mnemonic aid to remember Prof. Petersen's rule is: V.—ery, I.—ndigent, B.—oys, G.—rind, Y.—oung, O.—ranges, R.—eadily. Reverse these initials and you have red, orange, yellow, green, blue, indigo, violet, as the seven colors of your spectrum. These can in oils be easily made up to twenty-one shades, but hardly in water colors. You will notice that he uses two blues. This is necessary in landscape, because, as Hübl says, "the scientific order of luminous intensity is to be applied when each color is accompanied by its subordinate colors;" viz.: Yellow, by orange and green; red, by orange and violet, and blue, by green and violet. He chooses two blues because that used for green must reflect most blue and green rays and least violet, while that for purple must reflect most blue and violet and least green. Hübl prints in order of luminosity, yellow, red, and blue, because he finds by spectroscopic examination this order gives most luminous effect on the organs of vision.

Space off a square inch for each of the seven colors, wash in the primaries, then the secondaries, let them dry, then divide each space in half. Wash half the red square on right with orange for your reddish-orange; half the orange on the right yellow for orange-yellow; half the yellow square on right green, for a yellow-green; half the green square on the right blue, for a greenish blue; half the violet on the right red, for a reddish violet. Open the dividers to half the length of this spectrum, and place the left leg upon any color, and the right leg will rest upon its accidental or complementary color.

To illustrate: If resting on red, bluish-green is the color; if resting on orange, blue is the color; if resting on yellow, indigo is the color; if resting on green, reddish violet is the color; if resting on blue, orange-red is the color; if resting on indigo, orange-yellow is the color; if resting on violet, then yellow-green is the color.

If we fix the normal eye steadily on any color until it is fatigued, and turn away, the nerves are fresh for the perception of the complementary. These things have before been dwelt upon in preceding numbers of this MAGAZINE, and the worker cannot do better than review the issues for the past year. The earnest speaker or writer striving for uttermost truth of expression, weighing word against word, toils at length to the point where he is clearly intelligible.

Even so must the color craftsman toil. It will be well indeed if a whole year of patient effort is rewarded by some advance toward beautiful creations.

"Dwells within the soul of every artist
More than all his efforts can express,
And he knows the best remains unuttered,
Sighing at what *we* call his success.

"And the more devoutly that he listens,
And the holier message that is sent,
Still the more *his* soul must struggle vainly,
Bowed beneath a noble discontent.

"No great Thinker ever lived and taught you
All the wonders that his soul received;
No true painter ever set on canvas
All the glorious visions he conceived"

Lastly, even if you have the proper colors chosen for each negative, much of the beauty of the resnlting print will depend upon the "all-over wash" at first laid upon the paper. For this I should use a finely grained zinc for the yellow or first tint, which should be dry powder aureolin, or raw sienna ground and mulled to the right consistency with a stone muller. I would not have any of the screen-plate effect in this color. A red powder set-off from your parent black will give you the register and exact size. With a litho-crayon you can tenderly tint the sky and spare the high lights on cloud edges, if any, remembering that white must be very preciously used in landscape, as even on cloud edges it is rarely seen. Use more force for the foreground and on foliage. You can then gum, and dry, and etch as usual. Often a dash of light-red can be mixed in to advantage for a sunny, all-over effect. Your blue-block should have an artistic etch for the sky and clouds, and the screen here should be single line and run horizontally across the picture. Stop out the foreground and foliage for this etch always. The object is to keep down the sky in the print. When once the three colors are on each, crisply printed and dry, a second set-off on a grained zinc plate should be made and a gray tinted gently for the sky, and strongly for the foreground, and then inked in solid color outside of border for at least an inch all around. Before doing this a line can be ruled in gum arabic near the outer edge, to appear white in the print, for finish. Mix this gray from the red, yellow, and blue used in the picture, and, if very warm and golden in the tone of the all-over wash, this gray may be bluish as a complementary color. If "hot" in tone the gray should be greenish. The blue should have a dash of white in it to make it slightly opaque, so as to show a deeper tone at zenith than nearer the horizon line. Attention to these color hints, with a taste for poetic selection, and excellence of composition in your grouping, with due contrast of lines and rich effect, will give some claims for beauty. In focussing aim to suggest rather than to realize. Study the parts that come in contact with adjacent objects. The shades and edges of things—outlines of trees against the sky, grasses and tall weeds at edge of pathway, reeds and reflections in the water—all should have careful, thoughtful, intelligent contemplation before exposure is made. We must fall short of the truth, but we can secure truthful effects. Do not set the camera too high from the ground; artists always sketch sitting quite low. Seek for variety. Remember that the most agreeable effect is produced when the interest of the subject lies rather under the half of the paper, leaving more room for sky than for the earth below. Often an upright 5 x 7 view will be far more beautiful than one the long way of the plate.

Never focus the principal object of size or interest in the middle of the plate. Figures must not become impertinent. Do not allow them too near the corners, or of such size as to occupy the immediate foreground, if your object be a landscape. Avoid long lines of roadway or river when monotonous. Bear in mind that the great facts of light and shade are gradation, variety, reflection.

Second. Subtle modulations in infinite variety, but these must be subtle, or an irritating confusion will result. Broadly speaking, there must be some leading mass of light, yet it must not be a spot, but the eye should be led up to it through many gradations. There must be also a mass of

dark upon which the eye may rest undisturbed by any other equally effective portion. These may occupy any portion of the picture within an ellipse, but should not be placed upon lines bisecting the picture vertically or horizontally. When you print such a thoughtfully selected view, print with such masking as to secure "truth of space."

[See further papers.]

THE SOLARIZATION OF DRY-PLATES.

BY DR. R. ED. LIESEGANG (DUSSELDORF).

(Contributed.)

LET us look at a number of dry-plate negatives from the glass-side. In some we shall, if the plate is placed upon a black support, see a positive. No so with others.

While both kinds of negatives show alike black, when looked at from the film-side, the former looks milky on the glass-side, while the latter looks black on either side. This milkiness is caused by bromide of silver, which the fixing-bath could not dissolve. It is located between the black silver and the glass. It is met with in negatives which have been over-exposed. Under-exposed plates are free from it. In normal exposures it occurs only under the darkest parts, in landscapes, in the sky. In these places, then, the plate is not fixed. Even if left longer in the fixing-bath, the bromide of silver would still remain undissolved.

Whether hydroquinone or amidol was used as the developing agent, the plates will show this milky appearance the same as when developed with pyro. It cannot, therefore, be due to any tanning effect upon the gelatine.

I have before this demonstrated that a dry-plate which had, during development, become covered with a metallic fog would fix with difficulty. Some undissolved bromide of silver will remain in the plate, which disappears only after the removal of the red fog by means of bromide of copper and subsequent treatment with hyposoda.

It follows that the thin layer of silver in veiled negatives prevents perfect fixation. It is very probable that the milky appearance spoken of above is due to the same cause; that the silver, reduced by the light and the developer, prevents the hypo from penetrating the film.

This explanation is supported by the fact that at the edges of a very dense and a clear portion of the negative the bromide of silver disappears in the fixing-bath about a millimetre's distance below the dense part, so that the positive, seen on the glass-side, is smaller than the negative. The hypo did not penetrate from the top, but sidewise.

The fact that under the conditions mentioned bromide of silver may be retained in a negative is in itself not of special importance. It does, indeed, to an extent increase our knowledge of the constitution of the finished negative, as, besides the metal, the gelatine, and the products of oxidation of the developer, the undissolved salt of silver will have to be taken into account. Much more important, however, are the deductions to be drawn from this as regards the physics of development.

If bromide of silver is left under the metal, the former certainly has not been reduced by the developer, the picture does not always reach from the surface to the glass; certainly not in strongly exposed places, where especially it would be expected to do so.

It is, then, beyond doubt, that the developer also has not penetrated to this

depth in the places which received the strongest light, just as later on the hypo fails to do. With less exposure the developer, on the other hand, penetrates the entire film, reducing the bromide of silver down to the glass. This explains what usually has been ascribed to purely chemical causes, the solarization of the dry-plate.

Where a portion of the plate has been very much over-exposed the reduction is confined to the uppermost parts of the film. The layer or deposit of metallic silver will be very thin there. Yet it completely prevents the further penetration of the developer. The reduction on the surface took place too rapidly. In other parts less strongly exposed reduction sets in slower, and in the meantime the developer finds time to penetrate to the deeper parts. The latter thus become more intense, and are also free from bromide of silver. It all depends, then, on the rapidity of the reduction. It does not necessarily follow, as I at first assumed, that with longer exposure a coherent deposit of silver is formed, or with less exposure a more porous one.

In over-exposures a strong developer gives flatter images than a weak one. The addition of bromide of potassium, by retarding reduction, furnishes denser negatives. It may be, also, that the bromide of potassium renders the top of the film less capable of reduction, and thus, in consequence of the slower formation of the silver deposit, permits the developer to penetrate deeper into the film. The increase of solarization by the addition of hypo, of thiosinamin, or of too much ammonia is attributable to a reverse effect.

This theory of the solarization of the developing dry-plate could neither be proven nor disproven by the experiment of exposing the back of the plate or of stripping the gelatine film from its support. In the first case, with over-exposure, also a protecting silver skin is formed on the surface, as the light had penetrated to the latter. After fixation, the remaining bromide of silver is plainly visible from the glass-side. If the film had first been stripped from its support the protecting skin forms on both sides, and between the two bromide of silver (or, perhaps, more correctly, subbromide of silver) is retained.

Looking at a negative from the glass-side during development, sometimes no picture is visible, sometimes a negative, and occasionally a positive. Different brands of plates differ in this respect. In chloride of silver gelatine plates the negative becomes visible from the glass-side quicker than in the highly sensitive bromide of silver plates. These differences in part are attributable to the fact that the active rays penetrate deeper into the finely-grained chloride of silver gelatine than into the coarser bromide of silver gelatine.

I will, however, not enter further into the causes of these differences at present, but only describe the conduct of a single brand of plates—a normally sensitive gelatino-bromide of silver plate—as these observations furnish an important support of my new theory of solarization.

A normally exposed plate after awhile shows a negative from the glass-side. This negative becomes denser by continued development.

An under-exposed plate also shows a negative from the back of the plate if sufficient light at all has impinged to show a blackening of the film from the glass-side; not otherwise.

A very much over-exposed plate, after protracted development, will show strongly positive from the back of the plate. Sometimes the positive is preceded by a negative. The latter, however, soon disappears again in a general even tint all over the reverse side. Then the positive begins to show. Further particulars I shall treat of later on. The protecting effect of a quickly reduced silver film may be deduced from what has been pointed out already.

CHAPTERS ON PORTRAITURE.

EXTRACTED FROM THE RARE AND VALUABLE TREATISE ON "PORTRAIT PAINTING," WRITTEN BY JOHN BURNET. PARAPHRASED AND CONDENSED FOR THE GUIDANCE OF ADVANCED WORKERS IN PHOTHOGRAPHIC PORTRAITURE BY JOHN A. TENNANT.

I.

THE leading characteristic of portraiture is certainly the likeness; historical (or idealistic) portraiture should present the general character of the subject, portraiture pure and simple the individual character; but as every subject is personally more or less defective in proportion as he or she departs from the perfect type of the class, so the artist should first perceive where the individual variations of his subject lie, and treat it accordingly; not by obliterating the variations by lighting, posing, or the use of the pencil, but by modifying them, ennobling the character portrayed, and refining the same. The study of perfect types, such as we have in antique statues, will enable him to accomplish this, and the study of the best pictures of great artists in every branch of portraiture will be of great value. To attempt to pursue portraiture unaided by this requisite study would be to go into a foreign land without a chart or guide. Alexander would never sit for his portrait to any one but the great Appelles, who knew how to ennoble the likeness; while Cromwell desired Sir Peter Lely to portray him as he was, warts and all. Very little experience will convince the portraitist that most of his sitters resemble Alexander rather than the stern protector of England's commonwealth.

II.

Sir David Wilkie, in his remarks on portraiture, referring to the modifications of the variations of the subject, says: "In the human head, without attempting to generalize, so far as to make it the beau ideal of the class to which it belongs, there is yet in every head certain untoward shapes, spaces too vacant or too much divided, or certain lines which, for harmonious arrangement, require to be assimilated in their direction, which the experience of the portraitist will at once correct; and this treatment or accommodation is common to all heads, more or less." Sir Thomas Lawrence used to say that even in the majestic head of Mrs. Siddons there were parts and forms which did not appear to belong to Mrs. Siddons, and should, therefore, be omitted in her portrait.

To every head where character as well as resemblance is required, this remark will apply. Not only may accidents be softened down or left out, but a due distinction should be made between what is permanent and fixed, and parts liable to alteration and change. The eyes, the nose, the mouth, require to be given with a force due to their pre-eminence; while the dimples on the face of youth and the wrinkles on the brow of age should not be given with the force of life, but with such delicacy, as fleeting and evanescent, as Nature requires. This, however, should be done with feeling and discrimination, so that the connecting links in the features on which expression depends, and upon which likeness depends still more, may not be lost. In continuation, Wilkie remarks: "Of all judges, the most difficult to satisfy, and those whose opinion there seems the least reason to doubt or question, are the family and relatives of the person portrayed. They, more than all others, must know the original best; and knowing this, it would seem vain to doubt but that they must distinguish what is like or unlike. It is, indeed, not the knowledge, but the taste of such persons that should make the portraitist hesi-

tate to alter what they say should be altered, and obey their judgment in the matter. The moment the artist, so to speak, gives up his pencil to another, he runs the risk not only of spoiling his work, but of destroying the resemblance."

III.

That likenesses do not depend upon detail may be proved by our instant recognition of any one of our friends, even across the street, where scarcely a feature can be defined. Likeness will be found to lie more in general form and the masses of dark and half-tints; and the eye, taking in the form at a glance, assists the imagination in completing the resemblance. This is one great reason why the portraitist should be careful not to lose the peculiarities of outward form, either in the head or the contour of the figure of the subject. The extreme darks, and their exact distance from each other, are greatly conducive to likeness, as is also the marking of the points where the high-lights fall, particularly on the forehead, nose, and cheek-bone. By the presentation of too much detail, or its emphasis, the breadth is destroyed and the portrait loses the life-like and moving character of Nature. In the pictures of Rubens, where the lines and forms flow into each other, being merged broadly instead of closely defined, these qualities are very evident.

IV.

It is important to recognize the power of expression to give animation and agreeable character to a likeness, whether it be qualified by manly dignity, childlike grace, or womanly gentleness. Without expression the features, although correctly rendered, will be found lifeless and fixed. This detail, expression—the charm of all true portraiture—can only be caught at the moment when the sitter is off guard, and not fatigued or weary. In women, the seat of sweet, soft, genuine character is in the outer corners of the eyes, especially the lower eyelid, and the corners of the mouth. These points the portraitist should watch during the sitting. Dignity lies in the under-lip and chin, the upper orbit of the eye and forehead; to give the former without a simper, and the latter without a frown, requires the nicest feeling of the artist.

The great qualities of portraiture are found in the pictures of Titian. To every material object, hard or soft, rough or smooth, bright or opaque, obscure or transparent, his pencil imparted its true character and appearance to the eye, with all the force and harmony of light, shade, middle-tint, and reflection, by which he perfectly relieved, rounded, and connected the whole. Here is the ideal to which the portraitist should aspire.

V.

The drawing of the figure is also one of the points of importance in portraiture. Michael Angelo said of Titian that had he been a correct designer he would have been the master-painter of the ages. Titian, like his contemporaries, began his career by merely copying Nature as she happened to present herself, without choice or selection, and labored for some time in the labyrinth of littleness; but a hint from Giorgione soon taught him that taste was as requisite as industry; that labor might be misapplied, and truth itself become uninteresting and unnatural; that the detail must be sunk in the essential and predominant characteristics of the subject; and that the art of portraiture consists, not in presenting a feeble catalogue of particulars, but a characteristic, comprehensive, and animated impression of the whole. This extract certainly contains the true philosophy of portraiture, and should be constantly kept in mind; nevertheless, it is indispensable for the artist to go through a certain course of imitation that he may acquire accuracy of eye.

Referring to the portraiture common in his day as it is in ours, Fuseli remarks: "It is the remembrancer of insignificance; mere human resemblance in attitude without action, features without meaning, dress without drapery, and situation without propriety. The aim of the perfunctory portraitist is confined to the *external* likeness, the deeper, nobler aim, the personification of character, being forgotten or neglected in the desire to meet the wishes of the patron."

(To be continued.)

PRACTICAL FORMULÆ.

To correct overexposure in development. Before beginning to develop place on the developing table, near at hand, a flat tray of good size, containing a 5 per cent. solution of bromide of potassium. If a plate "comes up" too quickly, or shows other sure signs of overexposure, place it at once to soak a few minutes in the solution of bromide of potassium. After a few minutes' immersion the plate may be cautiously developed. This method is better than adding the bromide to the developing solution. If, in spite of all efforts the negative is too dense and veiled, it may be reduced in a bath made up as follows: No. 1. Red prussiate of potash, 15 grains; water, 1 ounce. No. 2. Hypo-soda, 240 grains; water, 16 ounces. For use add 4 drachms of No. 1 to the whole of No. 2. Immerse the negative in this until sufficiently reduced, then wash thoroughly.

Stripping the film from a gelatine negative. A simple method is thus given by Herr Mussat in *Archiv.* The negative is first placed in a bath composed of 1 part of commercial formalin in 10 parts of water for 5 minutes. It is then rinsed with water, and the hardened film is cut through with a sharp knife at about one-tenth of an inch from each edge of the plate. The negative is then placed in a water bath and the temperature raised to 120° Fahr. The film separates from its support, and may be transferred, reversed, to a collodionized plate.

For local intensification of negatives. T. N. Armstrong recommends that the negative be placed in water until the film is throughly swelled, then placed on its edge until the film has absorbed all its surface water and is equally dampened all over. Now, with a brush of suitable shape, slightly charged with the usual mercury solution, bleach the parts to be intensified. Wash well, and apply the usual ammonia solution to blacken the bleached parts.

True sepia tones can be obtained on matt surface print-out papers by printing the image to a good depth, and then toning with the following bath: Bichloride of palladium, 1 part; hydrochloric acid, 5 parts; distilled or cold boiled water, 100 parts. The prints must be well washed before toning, and the toning solution applied with a well charged wad of absorbent cotton. After the desired tone is obtained, rinse the prints in water, and fix 10 minutes in a weak alkaline hypo bath.

J. Kidson Taylor, a well-known medallist at photographic exhibitions, gives the subjoined formula as that used by him in toning silver prints with platinum. Chloroplatinite of potassium, 3 grains; sodium chloride, 50 grains; citric acid, 50 grains; water, 20 ounces. Before toning the prints must be thoroughly washed to remove all traces of free silver, and toned singly, or two prints back to back at one time. The

toning solution should be kept in constant motion, and prints should tone in 5 or 6 minutes. A little experience will enable the operator to recognize the depth to which toning should proceed for desirable results.

A formula for a combined toning and fixing bath which will give purple tones with almost any of the print-out papers on the market, is as follows: Dissolve 4 ounces of hypo-soda and ¼ of an ounce of sulphocyanide of ammonium in 10 ounces of water; add 160 grains of alum in an ounce of water, and 80 grains of nitrate of lead in an ounce of water. Boil the mixture for ten minutes, allow it to cool, filter it, and add cold boiled water to make the latter up to 20 ounces. Finally add 5 grains of chloride of gold, and the bath is ready for use.

Transparency Plates.—Mr. Teape, of the London Photographic Society, has lately given his experience in the making of chloride of silver collodion plates, which on account of their clearness are adapted for transparencies and lantern slides. This method furnishes plates which can be kept and developed like bromide of silver dry-plates.

In the first place, 12 grains of silver nitrate are dissolved, with application of heat, in 6 minims distilled water. After solution 50 minims of hot alcohol are added.

Then 5 grains of chloride of zinc are dissolved in 70 minims of alcohol, which is added to collodion, made as follows:

Guncotton	4 grains.
Alcohol	30 minims.
Ether	200 "

The hot silver solution is, in the dark-room, added drop by drop to this chlorized collodion, shaking the bottle continually.

The emulsion, when a few drops are poured on a glass plate, should appear orange red by transmitted light.

After settling a day it must be filtered through cotton wool, and is then ready for use.

The plates, before coating, should have their edges brushed over with a strong solution of rubber, to prevent the emulsion from leaving the plates in the baths. They are then coated in the usual way. When the coating has set, the plates are rinsed twice in water. This removes all soluble salts from the film, which formerly was accomplished by the washing of the emulsion. The plates are dried in a drying box. The developer is as follows:

Hydroquinone	5 grains.
Sulphite of Soda	50 "
Bromide of Potash	25 "
Water	500 minims.

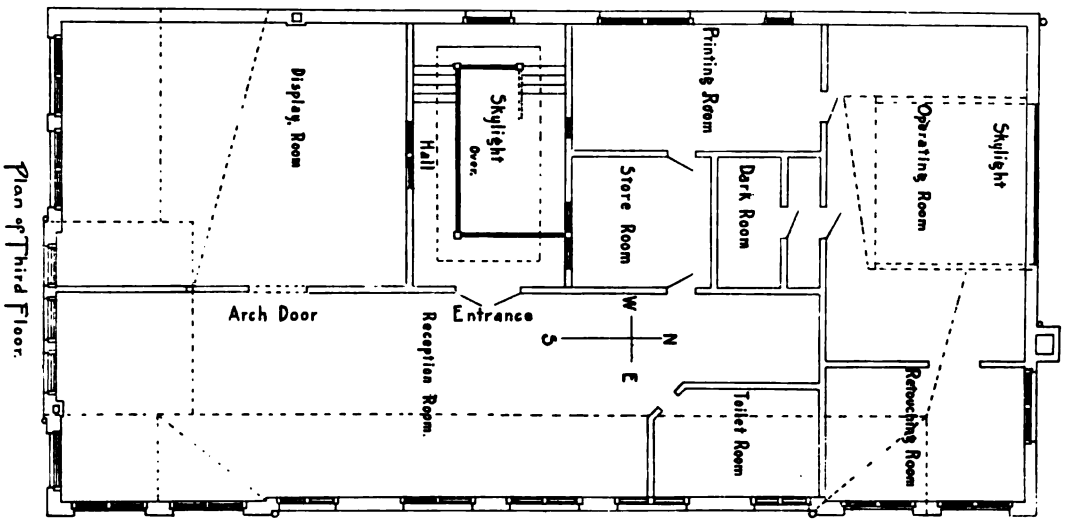
to which, just before use, a few minims of a concentrated solution of carbonate of soda are added. The color of the negatives varies from scarlet to black, according to the length of exposure and strength of the developer. After fixing in a 10 per cent. bath of hypo, a short washing is all that is required, as the thin film readily yields the salts.

SOME days ago we witnessed an exhibition of kinetoscope pictures projected on a large screen, showing respectively a Mexican bull fight, the crack regiment of Mexico at drill, the rapids at Niagara, and a wrestling match. To produce these pictures, in which the moving figures were life-size, a band of film carrying the positive images was quickly passed through an electric projection lantern. The results, while remarkable and in some respects pleasing, were marred by a constant, irritating vibration of the image, and a painfully evident gap at intervals in the continuity of the action of the scene. The instrument by which this performance is possible is called the Eideloscope, and is the invention of Mr. Latham. Similar inventions, by Messrs. Lumière Bros., Mr. B. Acres, and others, are being introduced by public exhibitions in London and Paris.

Nadar. *Paris.*

POSES DE FANTAISIE.

A MODEL COUNTRY STUDIO.



GROUND PLAN OF THE CLARK STUDIO, INDIANA, PA.

SOME time ago we were much interested in an account sent us by Mr. T. B. Clark, Indiana, Pa., of a new studio which he was then building and fitting up to meet his growing business. Since then the work has been fully completed, and, with Mr. Clark's consent, we are able to give our readers an illustrated sketch of the new gallery, which, in many respects, might serve as a model for a country studio.

The Clark studio occupies the whole of the third flood of the fine corner building over the Farmers' Bank of Indiana. The position is a good one for the class of trade done by Mr. Clark, and the exterior of the building presents a fine appearance. The floor occupied by the studio consists of seven rooms arranged as to size and location for their several uses. The ground plan given shows this arrangement. The complete space occupied is 50 by 100 feet. The studio light faces the north, and the building is fitted throughout with steam heat, electric light, natural and artificial gas, and abundance of good water. The dotted lines on the plan simply express the roof pitch at various points.

The visitor to the studio enters at once from the hall into the reception-room,

T. B. CLARK.

which is of unusual size. This room is daintily furnished and made attractive

THE OPERATING-ROOM AND TOILET ROOM, FROM THE RECEPTION-ROOM.

THE OPERATING-ROOM.

with a large and well-chosen collection of photographs and copies of paintings by famous workers. To the right as one enters is an arched door leading into the display-room, devoted to a permanent exhibition of the various kinds of work undertaken at the studio. At the other end of the reception-room are situated the toilet-, operating-, storage-, and work-rooms. A view of the toilet-room, with a glance into the operating room, is given in the accompanying engraving. Thence we pass into the operating-room itself, of which an engraving is given. Another engraving shows the interior of the room where negatives are kept, the arrangement of which must commend itself to all of our readers. In the last parcel received from Mr. Clark he enclosed a portrait of himself, which we have engraved. He writes: "I enjoy a fair share of the trade of my neighborhood, and, although I have to meet the competition of galleries offering cabinets from $1 per dozen, I have maintained my prices at $3 and $4 per dozen without losing anything worth worrying over. Most of my work is in the small sizes, but I secure considerable outside work and groups which call for the larger sizes. I like the large work best, as it seems to call for the exercise of more care and gives one valuable experience. It generally pays better than the small work, also. I read all I can get hold of which pertains to my profession, and though this sometimes preys heavily on my pocket-book, yet I think it is profitable in the long run. It certainly gives one much pleasure and keeps one up with the progress of events. I believe that the successful photographer is likely to be the one who is wide awake to what is going on in the photographic world; who treats his patrons so that they are pleased and satisfied at every point; and who works his business on a system which insures to all customers alike the best service and courtesy, and to the photographer a reasonable profit on all his work. The new Pennsylvania Photographic Association is a great step in the right direction, and all my good-will goes out for its success."

HOW THE NEGATIVES ARE KEPT.

The samples of work sent by Mr. Clark all show the earnestness of his desire to go forward, and we congratulate him upon his enterprise and the spirit which animates his efforts.

Considerable interest is evinced in the new single slant-light advocated as the most suitable for portrait studios, and we learn that a light of this character is to be built at the Celoron Convention, that photographers may be enabled to test its prac-

tical efficiency. A studio with such a light would, of course, have no top-light, according to the common understanding of the term. Such side-lighted studios have been used in various parts of Europe with success during the past twenty years, but in all these we believe the side-light, generally extending from a few feet from the floor to a height of 20 to 24 feet, has been vertical. If such a light is practicable for all the various sorts of work done in the studio the advantages of slanting the light at a slight angle are obvious.

Those intending to build studios will find in *Photographics* and *Quarter Century in Photography* very complete instructions, with descriptions and plans of all details.

THE TREATMENT OF THE HEAD IN PORTRAITURE.

BY THOMAS AQUINAS.

IT is surprising, when we recall the fact that fully seven-tenths of the portraits made under the skylight are of the class known as "bust" pictures, to note how rarely one sees a portrait in which the head has received adequate treatment from the pictorial point of view. It is still more surprising to observe that, in this most important detail of portraiture, many so-called "leaders" fail almost as frequently as the average worker "to fortune and to fame unknown." I do not here refer to mere photographs of heads, in the making of which the "leader" undoubtedly surpasses the average craftsman, but to portraits in which likeness and fine technique are blended with the qualities belonging to works of art. What these qualities are every ambitious portraitist should make it his business to know, that he may infuse them into his work. He should be as familiar with their uses and advantages as he is with the instruments and chemicals required in making negatives. It is the knowledge of these qualities, with the ability to apply it, which separates the artist from the photographer; to put it in a way more easily appreciated, which enables one photographer to get from $15 to $25 per dozen for his pictures, while another with difficulty gets $3 for the same number of prints.

If any reader doubts this fact let him seek out, in any of our large cities, those photographers who are getting the highest prices for their work. By contrasting the work of such men with that of photographers who are getting an average price only, he will see a difference in the work. The technical quality of the low priced work may be fully as good as that in the higher priced work, but the latter possesses something lacking in the former, and it is for this something that the customers of the higher-priced man pay the prices demanded for the work. Here, then, we see that the treatment of the subject is not merely a peg on which to hang art jargon to fill the journals, but a matter directly affecting every photographer who seeks to get the highest possible return for his knowledge and skill.

The qualities which give pictorial value to a portrait are dealt with more or less fully in the works of Burnet, H. P. Robinson, the *Discourses* of Reynolds, *Quarter Century in Photography*, and many other manuals of art. They have been treated of from a photographic standpoint times without number in this MAGAZINE and in *Mosaics* year by year; but unless a man have eyes to see and ears to hear, works and words are unavailing. The pursuit of art is an education of mind and eye, demanding enthusiasm, application, time, and patience. For portraiture alone, the best

way to go about it is to study the figure little by little, taking up its parts one after the other, arriving gradually at its general

FIG. 1.

treatment. Learn the possibilities of the single figure, of the head, of the hands, the torso, of its pictorial treatment in half, three-quarters, and full length. There is room for serious work, but every experiment will be found to have its profitable lesson, and the earnest student will find himself repaid as he goes along.

With this preliminary let us take up the treatment of the head and see whether we cannot learn something by looking for pictorial value in a few random examples of current portraiture. I purposely suppress all names, so that, where criticism is necessary, no offense may be taken by the makers of the pictures used as illustrations.

In making "bust" pictures, the following points may be taken as standard requirements, whether the subject be man or woman, viz., the size or proportion of space occupied by the head according to the size of the picture; posing and lighting, so that likeness, expression, character, a good line, relief, atmosphere, and pictorial effect are secured; the background; and the after-treatment of the image given by the lens.

By referring to Figs. 1 and 2 we are able to judge of the comparative effect of the same subject, with the head of varying size in the two examples, both being made on the same size plate. It is evident that in Fig. 1 the size of the head is too small, giving the subject the effect of littleness, whereas in Fig. 2 we have the appearance of normal height in the figure and more dignity. In Figs. 3 and 5 we observe a slight difference both in the size of the plates and the proportion of space allotted to the head. There is, however, an important difference in the two pictures in the distances respectively appearing between the top of the heads and the edge of the plates. In half-length pictures this distance is properly fixed at the space of half a head, which shows us that, in this respect, Fig. 3 is more nearly correct than Fig. 5. By taking away one-eighth of an inch from the top of Fig. 5 it will be apparent that the picture is improved in proportion.

FIG. 2.

On comparing Figs. 4, 7, and 8 we notice a decided variance in the space above the heads of the subject. The proper space

FIG. 3.

for a three-quarter figure is three-quarters of a head from the hair of the subject to the top line of the picture. This is most closely approached in Fig. 4, and that example is certainly the most pleasing of the three.

As far as pose is concerned, the chief point is to secure a position agreeable to the sitter, and yet forming what is spoken of as a good line. The first may be gained by allowing the sitter to move about at his ease in his seat until you observe that he is comfortable and free from awkward stiffness. The second is much easier than many have supposed, for the lines of a picture are good, from the point of view of composition, when the picture is agreeable to the eye when reversed so that the head of the subject is toward the bottom of the picture. The ground glass image will show this at a glance. Let us look again at our illustrations. If Figs. 4 and 8 are turned upside down, it will be apparent that Fig. 4 shows the more pleasing arrangement of line while Fig. 8 is awkward and poorly balanced. The same test applied to Figs. 5 and 6 shows that Fig. 5 is the better arrangement of the two. Fig. 5, however, is marred by the evenness of the ground, which is too light in tone for the face, and gives a harsh contrasting line around the figure. Figs. 3 and 9 are both well balanced in this respect. Notice the difference in effect obtained by the disposition of the contour of the face in relation to the body in Figs. 3, 4, 8, and 9. In Figs. 4 and 9 the lines are moulded gracefully into the form; in Figs. 3 and 8 this graceful union of head and shoulders is lacking, especially in Fig. 8.

In lighting, Figs. 3, 5, and 9

FIG. 4.

FIG. 5.

FIG. 6.

FIG. 7.

FIG. 8.

show careful management of the lights and shadows for the securing of expression; Fig. 5 is perhaps the weakest of the three in this detail, but, faulty as it is, it well represents the character of the subject. Fig. 9 shows a man of ideas, resourceful,

FIG 9.

vigorous in action, of cheerful and healthy temperament. It is a characteristic portrait, but would have been stronger if it had been printed plain instead of as a vignette.

In relief and atmosphere little can be claimed for any of our illustrations. Fig. 5 is soft, almost to weakness; Figs. 4 and 3 are fairly round, and the play of light has been directed toward the securing of relief, with a measure of success. The modelling of the face in Fig. 9 shows careful use of the screen. For these qualities, however, we can get a useful lesson by the study of the examples of portraiture by Hollinger, which are given on another page.

When we take our illustrations collectively, and regard them from a standpoint of the choice of background suited to the pictorial representation of the subject, they all appear lamentably weak. One of the chief considerations of the portraitist should be to see that there is no harshness where the outline of the figure impinges on the ground. Here the outline should be softened by atmosphere until in the shadows the figure seems to melt into space, and yet have the proper definition as to form. There should always be space apparent in the picture between subject and background. This may be secured by posing the sitter well out under the light, having the ground not nearer than two or three feet from the subject. The lens should be long in focus, giving true effects of perspective, softness of outline, and roundness.

As what may be spoken of as incidentals in portraiture we have the definition of the image; the relation of the background to the sitter; the lighting, whether from this or that side, and its angle; the choice of accessories; the printing paper best suited to the representation of the subject; and the mounting.

ATTRACTIVE ADVERTISING.

LONG experience has proven that mirth-provoking pictures are among the best kinds of advertising open to the photographer. There is something irresistibly attractive in pictures of the funny side of life, drawn from the life itself, which compels one to stop and laugh with the rest of the world; and oftentimes the best way to point a moral or drive a bargain is to employ the persuasion of humor. Our readers

have not been slow to avail themselves of this fact, and the pages of the MAGAZINE, year by year, give abundant evidence of the public of his locality. In June next this veteran photographer will celebrate his twenty-fifth year behind the camera.

T. F. Bottemley, Photographer.

1. "They say that I am to be photographed this afternoon." 2. "I have agreed—becaues we are to go to Bottemley's studio." 3. "Bottemley is a jolly fellow; he got a splendid portrait, and we're all pleased."

the humor of the fraternity directed to the ends of business.

The triple baby picture accompanying this note is a good example of the humorous advertisement. We are sure that it is a business-bringer for the studio from which it came, that of Mr. T. F. Bottemley, of La Junta, Colorado. It suggests many similar persuaders which might be derived from the varied phases of life to be seen in every studio.

The photographic rebus which we reproduce is from the studio of Mr. Henry Holler, of Brooklyn, N. Y., and offers a laugh and a puzzle, holding the mind until one realizes the advantages of the Holler studio. For the benefit of those unacquainted with metropolitan affairs, we may explain that the rebus relates to the consolidation of Brooklyn and other adjacent cities with New York, under the title of Greater New York. Mr. Holler tells us that he finds these pictorial novelties a capital means of keeping his business before

Henry Holler, Photographer.

DARK-LIGHT PHOTOGRAPHY.

SELBSTPORTRÄT MIT RÖNTGEN-STRAHLEN.
By L. Ehmann.
(From the Wiener photographische Blatter.)

IT has already been pointed out in these pages that the results obtained by Prof. Röntgen in photographing "without light" should have been predicted long ago as likely to follow certain physical facts pointed out by Prof. Morton and others.

In a late number of the *Electrical World* we find an interesting paper relating to the differences between the phenomena of vision and those of the black art of photography which our readers should not pass by. Among other statements, the author avers that the phenomena of vision are purely physiological, while those of photography are purely chemical. The relation of vision to visible photography is purely accidental; there is no necessary connection between the two. The organs of vision in man are capable of producing in the brain the sensation of vision only when acted upon by the ethereal waves, whose lengths are between 0.00036 and 0.00081 millimetre. This is undoubtedly due to the fact that substances composing the humors of the eye are easily penetrated by these waves, while all waves shorter or longer than these give no sensation. Glass, air, water, and other so-called transparent substances have a similar quality of transmitting waves of about the same range in length. When such substances are interposed between the eye and a source of ethereal waves, ranging between 0.00036 mm. and 0.00081 mm. in length, the waves are practically unobstructed and pass through to the eye. It is this accidental circumstance that enables us to distinguish between transparent and opaque substances. The range of human vision, and consequently ordinary transparency, is a very narrow one, but the fact that certain animals, particularly insects, are more active in darkness, and have visual organs entirely different from man, shows that their visual range is probably much greater. Waves which we recognize as heat may produce in such animals a sensation of light. The discovery of photography, but not photography itself, did depend upon the accidental circumstance that iodide of silver undergoes a rapid chemical change when acted upon by waves of light including and extending beyond the range of physiological sensibility. Had these chemical changes been produced by waves entirely out of the range of human vision Daguerre could not have investigated the matter as he did. The first step in photography was the discovery that visual light caused this chemical change in the iodide of silver, the second step was to fix in permanent position the portion of the substance changed by the light, while the unchanged portion was removed. From what is known as chemical combinations it seems highly probable that numerous compounds may exist, which are sensitive in the same way to waves entirely different in length from the visual ones. It has long been known

that the range of wave lengths producing effects upon salts of silver is much greater than the visual range, and also that the wave lengths which produce the maximum physiological effect (light) are not the same as those producing the maximum photographic effect. Glass is opaque to very short waves, its limit being nearly coincident with the visual limit, while quartz is transparent to a range of short waves, extending far beyond this limit. The reported discovery by Prof. Röntgen of a method of photographing by waves of a range to which glass and the human eye are perfectly opaque, and to which metals and the human flesh are transparent, waves which he has been able to produce by means of an induction coil, is not only reasonable, but capable of explanation without the creation of any new mediums. The living tissues of the jelly fish are transparent to waves in the range of human vision, and it is not unlikely that ordinary animal tissues are transparent to waves of some other length. The problem of photographing the bones in a living hand is that of finding a substance that will undergo a permanent chemical change only under the influence of ethereal waves of such length that flesh is transparent to them, while bone is opaque, and of finding an apparatus capable of handling these waves. If the discovery be confirmed we cannot fail to accord the highest praise to this new triumph of science, and to predict the development of a new field of actinography that may prove of greater importance than photography.

ERWIN'S HALF-TONE ENGRAVING PROCESS.

FOR years we have persistently urged upon photographers, especially those located in towns away from the large cities, the profitableness of adding a department of photo-engraving to the regular branches of business. With this end in view we have made known all the reliable information obtainable which would help our readers to get an understanding of modern reproduction methods. Of those who have followed up the lines indicated, some still make the studio and the etching-room work together in profitable harmony. Others found process work so much more remunerative than portraiture that the studio was left behind for the engraving establishment. Thus far, however, we have not heard of anyone who regretted the time and trouble required to learn engraving methods. Despite the growth of the process industry and the number of firms wholly devoting their energies to reproduction as a business, there are still abundant opportunities for men who can produce a good printing-block for illustration. The appreciation of illustration outstrips the facilities of those who cater for this trade, and the fields comprising the country newspaper or journal, with the business constantly opening out in the agricultural and industrial sections, are as yet practically unworked. It is here that the opportunity occurs for the photographer in such places. He is already on the ground, familiar with the business possibilities of his location, and when any engraving is to be done is often called upon to make the negatives required for the work. That the profit of making the blocks goes past him to the nearest city possessing a process-house results simply from his lack of equipment for the work.

Perhaps the chief reason why more photographers have not entered this promising field is found in the necessity, where commercial engraving is to be attempted, of expensive equipment in the way of machinery, plant, etc. The want of a thorough

knowledge of the working of the wet collodion process has also doubtless deterred others, but generally the expensive outfit of tools and machinery has proved the apparently insurmountable difficulty.

W. H. Jackson, Photographer.

BLOCK BY ERWIN'S HALF-TONE PROCESS.

By the new process of half-tone engraving worked out by Mr. J. Bruce Erwin, of Newcomerstown, Ohio, both these obstacles are practically removed, and the production of half-tone blocks is put within the reach of every photographer, being made, as one acquainted with the method observes, "as easy as making kodak pictures."

As the new process has cost Mr. Erwin considerable labor and experiment he has decided not to make it known, but consents to teach those who desire the advantages it offers for a nominal sum, details of which may be had on application to him. So far as we can judge from his engraving-blocks we believe the features of the modifications are original with Mr. Erwin, and to remove any hesitation in saying that the method is well worth the cost of instruction.

The two blocks accompanying this notice are some early examples of the capabilities of the process, and we hope later to present something which will better represent its possibilities. The chief advantages of the method, and the points on which it specially appeals to the photographer who desires its use only occasionally, are, first, that Carbutt's dry plates or other dry process plates may be used in the making of the negative; second, the manipulations are exceedingly simple as compared with those essential in regular half-tone engraving; third, no equipment is needed beyond the half-tone screen, etching tub, and chemical stock; and, lastly, the cost of the copper and other materials needed is trifling as compared with the older methods.

W. M. Morrison, Photographer.

BLOCK BY ERWIN'S HALF-TONE PROCESS.

If desired, the wet-plate process may be used in the production of the negative. In some of its points, such as the handling of the copper and the fixing of the etched plate to its base, the method is exceedingly ingenious.

One important point should not be forgotten. It is not claimed that by this simple process half-tone blocks can be made which will equal or surpass the best engraved work of the regular houses in the trade. This could hardly be expected. But it is claimed, and we think with some reasonableness, that the blocks made by the Erwin process are sufficiently high in quality to enable the photographer who can work the process to add a substantial income to that already secured in his regular studio business; in other words, the blocks are capable of producing seventy-five per cent. of the illustration work called for in the smaller cities, such as letter-heads, advertising cuts, catalogue and souvenir work. It is for these lines especially, and similar opportunities where the photographer can secure local orders for work which must be gotten out quickly and at a reasonable figure, that we commend the Erwin process to those who would like to be able to take hold of such opportunities, but have hitherto been deterred by the causes mentioned.

COL. V. M. WILCOX.

AGREEABLE to the promise made in our last number we add a few excerpts from the correspondence we have received since then, testifying to the character and usefulness of our deceased friend.

We bow to the wishes of the nearest friends and relatives that too much ostentation be not be displayed in this direction.

In our issue for February, 1894, we presented an extended sketch of the business life of Col. Wilcox, together with an equestrian picture of him in uniform. There is nothing to recall of what was there recorded. It was all true. Truth was a prevailing characteristic of Col. Wilcox. In the very first years of our acquaintance, when we met at the conventions and the contests were partisan and lively, whenever any measure was proposed in which Col. Wilcox was asked to take a part, his first inward query was, "What will Mr. Anthony say?" That answer became his guide, for to please his friend and employer first was *truth* in his eyes.

Trials abounded with him, but they seemed only to make him truer and tenderer. In his business; in his home; in his church—in all of these we knew him and honored him.

"With deep sorrow, born of heartfelt affection, we announce the death of Col. Vincent Meigs Wilcox, President of the firm of E. & H. T. Anthony & Company. His multitude of friends received the news with sadness akin to ours. His end was sudden and unexpected, for, though he had been ailing for some months past, he was not given to making complaints, keeping his sorrows to himself and his smiles for those with whom he came in contact. None suspected his demise was so near at hand, for up to the day before his death he was as active as he had been for many months. . . .

"The funeral services were held on Tuesday, May 12th, at 11 A. M., at the Phillips Memorial Church, of which he was an elder. The service was full choral, and the pastor, Mr. Bushnell, reviewed the Colonel's life in well-chosen words. Lafayette Post then took charge of the services, in accordance with the Grand

Army ritual, the bugle at the conclusion sounding 'taps.' The body was taken to Madison, Conn., on the same day, and interred in the family plot, the ceremonies being witnessed by a large party of sorrowing relatives and friends. Mr. Bushnell delivered a most touching address at the grave, and many who had been his boyhood companions in the little town of Madison were given an opportunity to view the body.

"The Colonel was a man of fine, commanding appearance, generous, open-handed, and warm-hearted, going far out of the way to relieve suffering, and never turning his back on the needy. His kindly disposition endeared him to thousands of friends who will keep his memory green." —*Anthony's Bulletin.*

In answer to our request for particulars, Mrs. Wilcox responded through Capt. Charles M. Wilcox (of the 27th Connecticut Volunteers) as follows:

"MY DEAR MR. WILSON: Mrs. Wilcox desires me to answer your kind favor of the 19th inst. You were probably aware that the Colonel had not been a well man for many years, although he never complained. He went to ride on horseback alone as usual on Friday morning, May 8th. Was at business all day on Friday. He told me, in his last conversation with me on Friday forenoon, that he was feeling better, that his medicine was doing him good. On Saturday morning he ate his breakfast as usual, soon after was taken with vomiting. His son, Dr. R. W. Wilcox, came immediately and sat with him until he died, at 6.45 Saturday evening, May 9th, of paralysis of the heart. He suffered untold agony. He knew he was going. He was ready for the last roll-call of the Captain of his salvation to 'come up higher.'

"The Loyal Legion and Lafayette Post, No. 149, were present at the funeral, the Post conducting their burial services after other services by the pastor. There was a large gathering. We took a special car on the 1.03 train for Madison, Conn., and laid him at rest at the home of his childhood, and returned to New York in the evening of the same day.

"He had an eventful and a busy life, filled full until the evening tide."

"GERMANTOWN, May 23, 1896.

"DEAR DOCTOR: Death has again entered our circle, and withdrawn from our sight one in whom fellowship in business revealed character which first commanded respect, then inspired confidence, and so led to genuine and lasting friendship.

"Such an one was Col. V. M. Wilcox. The facts concerning his birth, and his honorable and useful career as a business man, a citizen and soldier, an officer in the army and in the church have already been given to the public through the press.

"The distinguishing feature of his character and life, as it appeared to me, was the complete oneness of his secular and his religious life. The secret seemed to be that both drew their motive from the same source, and were devoted to the same high end. Hence his business life was not a mere devotion to self-interest, but a steady conscientious pursuit of the right and the true.

"He was not a business man through the week and a Christian man on Sunday. He was a Christian man in business and a business man in the church, and in both a power for good, not only in himself, but in his influence on others.

"His memory deepens our sense of the value of the life we are living here, furnishes a new motive and encouragement to live it well, and inspires us with new hope of sharing in the great hereafter with those who 'rest from their labors and their works do follow them.'

"Yours truly,

"EDWARD COPE."

SUCCESSFUL RADIOGRAPHY.

A Bullet Located in a Man's Leg.—The most successful experiment so far in photographing by the cathode rays was performed a few days ago by Prof. Cox, of McGill. Among the spectators was Dr. King, of Toronto, who had come especially to see it. A patient from the General Hospital was taken to Prof. Cox's lecture-room. He had been shot about two months ago in the left leg between the knee and the ankle. The bones of the leg had been injured, and the bullet had not been extracted. While not suffering, the patient had not mended as he should, and there was all evidence to show that he would be a cripple for life. It was decided to ascertain, through the medium of the cathode process, to what extent the bones were injured, and to find, if possible, the bullet. In the presence of several physicians the patient was placed in a comfortable position and the injured part of the leg exposed against a large-sized, very sensitive plate. An exposure of forty-five minutes was given, and then Prof. Cox took the plate to the dark-room for development. He soon reappeared with the plate, and to the intense delight and satisfaction of all there was a splendid view of the bones. They were distinctly visible, and not only they, but lying right between the two bones was the image of the bullet. It was a decided triumph of science. The plate was taken possession of by the doctors present and minutely studied. They were all highly gratified at the success of the experiment, particularly Dr. King, whose trip was not made in vain. At the request of the physicians, Prof. Cox afterward attended the regular meeting of the Medico-Chirurgical Society at their rooms, and produced the plate, when it was discussed. Prof. Cox has taken another photograph of a hand with much greater success than that which attended his photographing of his own hand. He has also made a valuable discovery with regard to the Crookes tubes, which is, which part or side of the tube is best to use while photographing.

NEWS AND NOTES.

MESSRS. ROSS & CO., London, have put on the market a new hand-camera which carries forty cut films. No further particulars are yet announced, but such an instrument is likely to have great popularity.

THE *Optician*, referring to the preference given to platinotypes over bromide prints for the illustration of books and folios, states that Bernard Alfieri, an amateur whose productions are much used in this way, prints as much as $5000 worth of platinum paper yearly.

TYREE'S Litmus Pencil, an American invention which bids fair to supersede all other forms of litmus for photographic use, is being introduced in Europe with great success. This pencil, identical in form with an ordinary lead pencil, contains red litmus at one end, for the testing of alkalies, and blue litmus at the other end, for the detection of acids. It is claimed that with this pencil the most minute quantities of alkali or acid may be instantly indicated.

THE improved lined color-screens to be introduced for use in the Joly process of color-photography are composed of silk fibres, dyed to the colors required, laid down upon a glass support, and imbedded in a film of varnish, which serves to in-

crease the transparency of the fibres and causes them to adhere to the plate.

THE annual exhibition of the Royal Photographic Society of Great Britain is to be held at London September 28th. Applications for space and particulars should be made at once to the Secretary of the R. P. S. of G. B., 50 Great Russell Street, London, W. C.

IN September next an exhibition is to be held at Glasgow, Scotland, to illustrate the history and development of photography and its applications in the arts, sciences, and industries. From present indications it seems likely that this exhibition will surpass in completeness and interest the one held in the London Imperial Institute in 1895.

AN effective novelty for reaching the trade of cyclists is a photograph of a bicycle wheel, in the centre of which a vignetted portrait is vignetted. By photographing a single wheel of the bicycle, removed from the frame and suspended against a plain white background, and then blocking out the centre of the wheel with Strauss Marl or other opaque color, a small bust portrait may be vignetted in the centre very easily.

PYRO-METOL DEVELOPER. It is claimed that some of the manufacturers of pyrogallol are so much disconcerted by the success of metol and the other new developers that they are combining a judicious proportion of metol with their preparations of pyro. Be that how it may, here is a formula for a pyro-metol developer which, worked intelligently, will give excellent results: No. 1. Pyro, 55 grains; metol, 45 grains; metabisulphite of potash, 120 grains; bromide of potash, 15 grains; water, to make 20 ounces. No. 2. Washing soda, 4 ounces; water, to make 20 ounces. For use, mix equal parts of No. 1 and No. 2, or as indicated by the appearance of the image in development.

AT the recent electrical exhibition held in New York a special department, operated by employés from Edison's laboratory, was devoted to exhibitions of the possibilities of X-ray photography. The department proved an immense success. The line of interested sightseers waiting at the door for admission reached each night from one end of the great exhibition building to the other.

THE new catalogue of the Thornton-Pickard Shutter Mfg. Co. (Andrew J. Lloyd & Co., Boston, agents) gives much valuable information for those interested in instantaneous work, with a table of relative exposures for rapidly moving objects. The silent studio shutter manufactured by this firm is undoubtedly the most practically perfect thing of its kind available. It is described in the catalogue mentioned. An album of large collotype views of the Thornton-Pickard works recently received gives an interesting account of the extent of this company's enterprise, and makes a remarkable showing.

A novel flash-light arrangement is thus described in a recent issue of the *Photo. Rundschau*. A clean glass plate, rubbed over with talc, is coated with 4 per cent. plain collodion. While the collodion film is still wet it is sprinkled evenly with flash powder, and a cotton string is laid over it, which attaches itself and subsequently serves as a fuse. When the film is quite dry it is stripped from its glass support, and when required for use is suspended wherever desired, the fuse is lighted, and, if the film is thoroughly dry, an intense flash of light ensues. It would be well, in the absence of details as to the powder to be used, to exercise caution in experimenting with this novelty.

B. J. Falk. *New York.*

CHILDREN OF THE STAGE.

Copyrighted Photographs by Falk, N. Y.

Rita.	Little Truant.	Marguerite.	Rita.
Rita.	Marguerite.	Marguerite.	Rita.
Marguerite.	Marguerite.	Marguerite.	Henriette Bache.
Sunbeam.	Vernon.	Marguerite.	Grace Lack.

SHALLOW *VERSUS* DEEP ETCHING.

BY A. C. AUSTIN,
Manager A. C. Austin Engraving Co., Albany, N. Y.

MANY theories have been advanced from time to time with regard to the depth of half-tone etchings, and the subject seems to be so little understood that it furnishes an opportunity for a lesson that may be of benefit all around. Printers are quite apt to say that an etching is shallow when the block works badly on their press, whereas it may be just the reverse and much deeper than many others which they have used. Let us look into the matter and call the negative-maker's and the etcher's attention to the real facts in the case, that all may know when a block is etched deep enough, how it can always be made so, and the causes for its not being so.

If, in striving for brilliancy in half-tone effects, the process negative-maker uses a rather large diaphragm, the result will be apparent in the exceedingly finely stippled high-lights and the weakened shadows. The etcher in making his contact print from this negative will find a short exposure necessary in order to keep the shadows open, and in consequence will have exceedingly fine pointed dots in the high-lights on the plate. It is obvious that, under these conditions, the etching cannot be greatly prolonged, since the circumference of the top of the stipple is not sufficient to withstand the inevitable wearing away of the dot that is a part of the etching, and before sufficient depth is obtained the top will become like a needle and cannot possibly offer any support to the roller in the after-printing.

In this instance we have a case of shallow etching, which in coarse screen work would render the plate useless, wholly due to faulty negative-making, for which the etching cannot be held responsible. Not that I wish to disparage the striving for brilliancy in negative-making, which is commendable, but that brilliancy should be tempered by a knowledge of the etcher's branch, and the stipple regulated according to the fineness of the screen.

Negatives made with a 200-line screen can be closed much more than those made with a 100 line screen, because in the former the dots are more numerous and consequently offer more support to the rollers, and the plates do not require to be very deeply etched. With the coarse screen and more widely separated dot the negative maker should not attempt to "close up" the high-lights to so fine a point, but should give the etcher more material to work upon so that he can get good printing depth by prolonging the etching, at the same time reducing the circumference of the dot so that it shall be as high in value as is necessary for a proper representation of the original. If the negative-maker, having a practical knowledge of the etching, applies this idea to all his negatives, the etcher will be able to do much more satisfactory work. The progressive worker who has not already appreciated these principles will certainly profit by directing his attention to them in the future.

It is not always, however, that trouble with the plate can be traced back to the negative. The etcher has his shortcomings as well. Seldom, with an experienced man, is it due to under etching, unless from a faulty negative as before stated (or the resist solution is behaving badly and will not adhere to the plate), but quite often to over-etching when striving for effect in the first "bites" and in the fine etching. It is well to know that to lose

the top of the dot in the etching and round it off is fatal, more particularly in broad, open spaces, like the sky in a landscape or the background of a vignetted portrait. Keep the top firm and flat, be it ever so fine, and you are safe from trouble. In some instances it may be proper to etch the stipple completely out, but this is permissible only in very small spaces which are well supported all about.

It can readily be seen from this that the negative-maker as well as the etcher may be responsible for trouble in the printing, and that many times it is not shallow plates, but over-etched and consequently deep plates that give cause for complaint. Printers are getting better educated every day as to the methods of working, and are printing half-tone plates with much better effect than in the past. Some few, however, still cling to the idea that it takes an enormous impression to get a proper print, and they use a soft tympan, give a good squeeze, and get a poor result. Learn, friends, to use a tympan of hard paper, to build tissue overlays, and have only sufficient impression to touch every part of the plate; rollers rather more hard than soft, stiff ink, and good paper, and the results will be a pleasure. The engraver and the printer should be fast friends. The public needs them both, and instead of finding fault each with the other in the presence of a customer, let both endeavor to understand the requirements and the resources of each, and be mutually helpful. Good work will command its price. The public will pay the bills.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

ADVANCED SERIES III.

THE last article dealt with the systematic use of broken colors produced from mixtures of the primaries and their complementary secondaries. In the following experiments we will take up the secondary colors mixed with their complementary tertiary colors.

Prepare a sheet same size as the previous Whatman's paper, by washing it with clean water all over until limp. This must be upon the right side of the paper, which is always the side upon which the water-mark "Whatman" appears, reading as in print, left to right. Rule three rows of five squares each, No. 1 the first one, and so on, in regular order, until the last one is 15. Wash square No. 1 in purple, No. 6 in green, No. 11 in orange. If no mistake has been made, the three outer squares on the left will have these numbers.

Proceed to the three outer squares on the right. No. 5 wash in citrine, the complementary of the purple square No. 1. In No. 10 wash russet, to complement the green, No. 6. In No. 15 wash gray or slate, to complement orange, No. 11.

Proceed to break these colors toward the centre each way, precisely as in the last lesson. It will be found quite a difficult feat to secure a marked difference in each square but such a difference can be exhibited after a few trials. The colors now obtained will prove highly useful in all pictorial work. Of course, any student who has thus far followed this system will at once see the importance of continual study from Nature. Every investigating look bestowed on natural objects will bear him onward. He will learn and gather as he goes. The lack of practical knowledge leaves the learner to grope in darkness, when careful consideration of the subject, aided by practical knowledge, would lead to most gratifying success. It is thus that the inventive faculties are most healthfully exercised and strength-

ened, and when we attempt an original production our real acquirements will become evident.

One of the objects of education in art should be to advance the learner as quickly as possible beyond its first difficulties; to endeavor to make easy as well as plain the proper course; to direct the approach to the comprehension of and power of expressing the truths of Nature.

The learner who has followed this series of lessons has now the alphabet or key to color-research at his hand, just as the pupil who has mastered the letters of the alphabet and the spelling of elementary words holds within his grasp the key to knowledge.

It must not be forgotten that in making complex color combinations the elements of personal *taste* peculiar to the individual must necessarily influence the results one may reach. Articles might be written upon the balance of color, and very instructive charts demonstrating what the eye and the mind demand for their satisfaction; the presence of the elements of the chromatic scale in such proportion as (according to Prof. Church) shall be competent to constitute grayness, but for the profitable study colored plates are necessary. For continued research I know of nothing so useful as the toy known as the kaleidoscope. It is in use in manufactories where colored fabrics are made on the Continent, but it is used very little in this country, if at all.

Mount such a toy as can be obtained for, say, five dollars, upon a piece of two-inch plank, with two stiff wire standards enclosing the tube so loosely as to permit the operator to revolve the same easily. The camera placed upon the other end of the table, the centre of lens and centre of kaleidoscope must coincide. Between these mount a five-inch reading-glass in a thick block, at such height as will cause its centre to agree with the other two of the lens and toy. By moving the glass back and forth a beautiful enlarged image is thrown upon the ground-glass of the camera, which can be copied upon a Carbutt plate or an ortho-plate, from which prints on celerité matt paper can be faintly developed and colored from the image seen on the ground-glass of the camera.

In that highly useful volume, *Mosaics*, for 1896, published by Dr. Wilson, will be found on page 125 an article on "Improved Developer for Isochromatic Plates." Mr. Bell, the author, speaks with authority of its usefulness, as he says he used it in Munich upon 1000 negatives from oil- and water-colors, and upon 900 at the World's Fair.

Eiko cum Quinol cum Metol.

No. 1.

Water	16 ounces.
Sulphite of Soda . . .	4 "

Dissolved cold; add 2 fluidrachms of sulphuric acid. Dissolve in 2 ounces of water 320 grains of eiko, and in 2 ounces more 320 of quinol, and in 1 ounce of water 75 grains of metol. Be sure all are well shaken and well dissolved. Add to the sulphite solution, shake well, and add 10 ounces more of water. Cork securely, and *let the bottle stand inverted* when not in use.

No. 2.

Water	32 ounces.
Sulphite of Soda . . .	2 "
Carbonate of Potassium . .	4 "
Bromide of Potassium . .	120 grains.

No. 3.

Water	10 ounces.
Bromide of Potassium . .	1 ounce.

Use 1 ounce No. 1 and 1 ounce No. 2, and 10 ounces of water. For delicate results, dilute more. Negatives have wet-plate quality.

If great brilliancy of color is desired, arrange as for enlargement, with ground-glass set in window, and bend two or three iron rods over table and kaleidoscope; over all throw any thick opaque fabric. The operator can now view the image by transmitted light and color by daylight, as usual. The number of designs secured by this arrangement is of great variety, since a

slight turn of the instrument produces wondrous changes.

If one desires to proceed at less cost, the folded sample cards of any of the great silk concerns in the large cities may be procured for a small sum. That of the Nonotuck Silk Co., of New York City or St. Louis, exhibits some two hundred beautiful shades. These will tax the skill of any person to imitate them truthfully.

In preparing these papers the writer has been actuated by the hope that fresh beauties of the least obvious sorts might, by the aid given, be brought out. The assorting of colors in obedience to certain laws seems to be an art little, if at all, understood by process craftsmen.

The practical use of the last two charts, in accordance with these laws, may now be undertaken. Describe with dividers three rows of circles of three each the size of a silver dollar. Reserve a space one-eighth of an inch wide running diagonally across each circle of the white paper. Number the circles Nos. 1, 2, and so on to No. 9. Wash No. 1 half light-red, the other half citrine; No. 2 deep-orange, the other half bluish-green; No. 3 scarlet, the other half *blue*-green, decidedly so; No. 4 dark-purple, the other half a citrine-yellow; No. 5 a red-purple, the other half a yellow-green; No. 6 crimson lake, the other half yellow-green; No. 7 purple-russet, the other half ivory-black; No. 8 russet, with dark-green; No. 9, bluish purple and a yellow-orange.

The value of the white line separating related colors will now be seen. Duplicate the sheet, and separate the colors with a black line instead of a white, and compare. In decorative work the proper use of white, black, and gray lines of separation gives beautiful combinations.

. . . "Know ye what color is?
It is the whispering from Nature's heart,
Heard when we wander on the moor, or gaze
On the sea, on fleecy clouds of heaven, or at
The reedy lake where playful ducks are splashing."

(To be continued.)

THE INFLUENCE OF HYPO IN THE METOL DEVELOPER.

BY DR. J. M. EDER,
Director of the Imperial Austrian State University of Photography.

THE influence of hyposulphite of soda on the metol developer is a question worthy of research, and it gives me pleasure to make known my experiments in this direction.

It will no doubt seem strange that hyposulphite of soda should have a beneficial effect in any developing solution, the characteristics of this chemical rather foreshadowing a deleterious influence. This is, however, not so in practice, the presence of hyposulphite of soda in small quantities being of great advantage in metol-developing solutions.

My primary experiments consisted of a comparison of the following formulæ:

A.—Water	. . . .	1000 minims.
Metol	. . . .	15 grs.
Sulphite of Soda	. .	150 "
B.—Water	. . . .	1000 minims.
Carbonate of Soda	.	330 grs.

Twenty parts of A to 10 parts of B and 30 parts of water were then mixed ready for use.

A pyrogallic-acid developer of normal strength was then prepared as follows:

A.—Water	. . . .	1000 minims.
Sulphite of Soda	. .	200 grs.
Pyro	. . . .	28 "
B.—Water	. . . .	1000 minims.
Carbonate of Soda	.	100 grs.

Twenty parts of A, 20 parts of B, and

20 parts of water were then mixed ready for use.

These two solutions were placed in separate trays; a number of plates of one emulsion were now exposed under a Warnecke sensitometer, thus assuring equal exposure, and a plate was placed into each solution of developer at the same moment. The development was continued until the number of the sensitometer representing the speed of the plate was of like density on both plates.

Upon fixing the plates it was apparent that the negative developed with metol, although showing greater details, was not quite as brilliant as the pyro negative.

Further test was made with new solutions prepared by exactly the same formulæ, adding to the B solution of the metol development 1, 2, 5, and 10 parts of hyposulphite of soda. The developer which contained one part of hyposulphite of soda gave a result equal in brilliancy in every respect to the pyro developer, with fine contrast and an absolute clearness. The absolute freedom from fog in the metol solution thus prepared was remarkable, and in many respects the negative was to be preferred to the result obtained with pyrogallic acid.

The addition of hyposulphite of soda to the metol developer acts as a retarder to a certain degree, and certainly prevents a fog. *Greater detail is obtained* than without its use, although if the hypo is increased in quantity the effect is exactly reversed.

Satisfied that this subject was worthy of further research, I experimented for some time with the following

Metol-hypo Developer.

A.—Water	. . . .	1000 minims.
Metol	. . . .	15 grs.
Sulphite of Soda	. .	150 "
B.—Water	. . . .	1000 minims.
Carbonate of Soda	.	330 grs.
Hyposulphite of Soda	.	1 gr.

For studio work I found best suited 40 parts of A; 20 parts of B; 20 parts of water. For landscapes, 20 parts of A; 10 parts of B; 30 parts of water.

In my experiments I invariably tested this developer against a normal pyrogallic-acid developer (which I had previously adopted for general use in the academy), and found that metol-hypo developer prepared after the above formula gave most excellent results for both portraits and landscapes, and that the results were fully equal if not superior to pyro developer.

OUR PICTURES.

THE pictorial features of our present number hold a great deal of value for the interested photographer. Over fifty pictures in all are presented for analysis and measurement. They truly offer a passable substitute for the grander show at Celoron to those who cannot attend the national and annual competition for medals and for the offering of merchandise.

The studies of Mr. Falk were chosen from the first (48) set offered at a nominal price by this MAGAZINE in order to show the craft the excellent quality of the pictures viewed artistically. Please refer to the article on another page pertaining to them. Secure the entire sets and read the article.

The studies of Parisian ladies by Mons. Nadar and the second series of positions offered from children's pictures by the generosity of Mr. B. J. Falk, both afford varied and suggestive examples of excellent artistic and technical photography. We have selected them all with great care, and trust they will prove acceptable and of real service.

If it is "a little dull" just now, you can make valuable use of your time by experi-

menting under your skylights with the methods applied by the great artists named above.

Mr. Hollinger's portraits will prove valuable as illustrations for those who are working along the lines laid down by Burnet. We are glad to present them in this issue, in which we also begin the publication of a condensation of Burnet's well-known treatise on *Portraitnre*.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XVI. THE NEW PORTRAITURE.

IT is the fashion, nowadays, to herald as new everything which is unlike that which is common and familiar, hence the heading of this paper. Besides this, the portraiture of which I write is profitable, and thus may merit the distinguishing prefix, since the portraiture with which we are familiar has long been regarded as unprofitable.

How to describe the new portraiture, so as to render it intelligible to the men who can and should profit by it, is a somewhat difficult task. Perhaps I had better break the ice by saying that it is entirely different from the kind of portraiture which, during the last ten years, we have regarded as satisfactory, although unprofitable. How very different it is may be judged when I say that it is not favorably regarded by the judges at the Convention, is passed by as foolishness by many respectable members of the fraternity, and depends least of all for its peculiar quality upon this or that brand of plate or paper. And yet it is extremely profitable!

Some idea of this new portraiture may be gained by a careful scrutiny of the four portraits by Mr. W. M. Hollinger, of Dayton, Ohio, which appear in this issue of the MAGAZINE. If I could show the original prints their significance would be more easily understood. So much is lost in reproduction where delicate values are concerned. Let me describe the originals of these engravings, which I selected from a collection of Mr. Hollinger's work shown to me a few weeks ago. They are carbon prints, cabinet size, and of a warm black color. There is little about them to suggest either the photographic gallery or photography as generally understood, but rather the work of a master-hand in portrait painting. Not that I praise a photograph because it looks like a painting, but because it shows the subtlety of treatment and refined taste which we are accustomed to find in portraits by artists of repute.

In these portraits, which, for the moment may stand as examples of the new portraiture, we have the line of each figure sufficiently defined to indicate form, but nowhere harshness or painfully sharp definition. There is a total lack of any effort to secure the confusing array of detail, which the lens sees but which the eye grasps only as masses of light and dark. At every turn the technique is subordinated to the feeling of the artist, and the eye takes in each picture as a harmonious whole, the attention being irresistibly directed to the face as the centre of interest. Notice, too, the generous distribution of shadow, whereby the lights are kept precious, playing delicately over the features instead of being projected upon the whole figure as if thrown by a powerful search-light. Observe the fidelity of the relative values of flesh and white linen, how even the highest lights in the former are lower in key than the latter, as we see them in life, but rarely in the photograph.

The posing of the figure in these portraits is a detail which will repay thoughtful

examination. In each example it is admirably suited to the subject, conveying grace, animation, dignity and repose, according to the characteristics of each sitter. The management of the hands in the three pictures where they are shown cleverly contributes to the effectiveness of the ensemble in each instance, in one serving to repeat the lighting of the face, in the others supplying helpful masses of semi-dark.

Coming to the backgrounds, I am obliged to apologize for the shortcomings of the half-tone process in the reproduction of values in darks and half-darks, by which many of the delicate effects secured in the originals are lost. As a rule, the grounds are graded from dark to half-dark, with a softly illuminated, cloud-like space, which may be manipulated to relieve any portion of the figure at will. In the portrait of the gentleman this light is placed too high, conflicting with the lighting of the face, and causing the right shoulder to appear as a somewhat harsh line; otherwise the portrait is wellnigh perfect. Of the exquisite modelling of the features, the softening and rounding of the outlines, as well as the life-likeness evident in the originals, I will say nothing, as these qualities have largely disappeared in reproduction.

So much for Mr. Hollinger's pictures. I had much pleasure in looking over his portfolio, and trust that what I gained will not be wholly lost.

Where does the profitableness of this kind of portraiture come in? Simply in the fact that the man who can do such work can confidently seek the patronage of those who can pay him five or six times the amount he may now be getting for his work. Of the photographers who are to-day producing portraits along these lines, I do not know of one getting less than fifteen dollars per dozen for cabinet pictures; the average is eighteen dollars. This I call profitable portraiture, and worth working for. It should also be remembered that the business in studios where this kind of work is done is by no means as closely confined to cabinet pictures as obtains in the average gallery. Big prices are asked and obtained for larger sizes. . The product of the camera is individualized and made as worthy of its price as the product of the painter's easel. In one studio twenty-five dollars are asked for the first copy of an 8 x 10 portrait, the after-copies sells at five dollars each for a half-length, for a life-size portrait as much as $100 are asked. The prints are in carbon, and the work throughout is unexceptionable. In another studio in which I had personal experience I have known from $200 to $1300 to result from the sittings of an afternoon, and the only sizes worked there were cabinet and whole plate.

Of course, not every man is fitted to accomplish these things, nor is every locality adequate to support such a business. As a rule, the photographers who follow the new portraiture have been obliged to establish themselves in the large cities, where the prices demanded for their work could be obtained, with a sufficiently large field of patronage. This is an expensive and often risky thing to do, requiring abundant capital and the best possible business management.

The expenses of an exclusive studio on Fifth Avenue, New York, during the first few years following its establishment are enormous. I remember receiving an apologetic letter some years ago from the principal of one of our Fifth Avenue studios, in which the writer expressed regret that "on account of the great expense attending the first year's work" they could not subscribe for the MAGAZINE. Another firm, in establishing an exclusive business in the fashionable quarter of London, spent over $150,000 before the first negative was taken.

I do not, therefore, counsel the photographer to put his work or his prices beyond the appreciative power of the people upon whom his trade depends. All that can be advised at present is that the photographer should put himself in touch with the movement already begun for better portraiture and higher prices, so that as the occasion presents itself, within his own town and within his means, he may be able to raise the quality and value of his work. This he can do by keeping himself informed of the progress of events, by systematically eradicating all that is false in his work—false lighting, stiffly conventional posing, impossible backgrounds, sham accessories, and the like. I am convinced that in many instances photographers now getting five dollars per dozen for their cabinets can, with a little effort, work up to ten dollars for the same amount of work. It is worth a trial. "The fields are ripe for the harvest, but the laborers are few."

FORTY-EIGHT PHOTOGRAPHIC STUDIES BY FALK FOR $1.

THE publication in this issue of eight interesting examples of portrait work from the studio of Mr. B. J. Falk affords our readers an opportunity of seeing what is offered on another page in the announcement of "Forty-eight photographic studies by Falk for $1."

The first series of these studies was announced in May, and the large edition prepared was at once taken up by our readers. Some of the sets—forty-eight pictures comprising the set as sold for $1—found their way into foreign countries as far apart as Malta and Japan, and from many of our patrons we have received appreciative letters concerning the studies. The second series, comprising forty-eight new studies by Mr. Falk, entirely different from those of series 1, is fast disappearing, and seems to give even more satisfaction and pleasure than its predecessor. Readers who desire to secure a set of this second series should, therefore, order them at once to prevent disappointment.

Our purpose in making these studies available at such a moderate price as $1 per set of forty-eight, post free, was to provide specimens of portrait work which would help the worker under the skylight in posing and lighting his sitter. The pictures, therefore, were chosen with this end in view, to suggest poses, ideas in lighting and arrangement, grouping, half, three-quarter, and full-length figures. For this purpose we believe that photographers will find the studies a very profitable investment, practically giving them an insight into one of the most prominent metropolitan studios.

We have been agreeably surprised to see, in the letters accompanying the orders received, that there are several other ways in which our patrons make good use of the studies. One photographer writes: "I find the Falk studies helpful in a way which, perhaps, you did not anticipate. When my customers come to be photographed they generally have little idea as to the pose and style of picture they desire, and it is not always an easy task for me to decide for them. Now I show them the forty-eight Falk studies, and let them select that which they think most appropriate. This plan serves to give the customer satisfaction and pleasure."

Another photographer, who for years has made a practice of collecting photographs by prominent artists, writes to express his pleasure in being able to add to his collection a representative assortment from the Falk studio. A third, employing several operators, says that the studies are extremely valuable to his assistants in suggesting positions and giving new ideas in

the treatment of the sitter; while a fourth writes that he thinks the set of studies well worth its price, because of the large number of good portraits of celebrities it contains. In many of the pictures the name of the subject appears on the card along with Mr. Falk's imprint.

With this before us we do not hesitate to urge upon our readers the advisability of possessing a set of these beautiful studies, and of giving thoughtful attention to their suggestions. We do not know of any other collection of photographs offering so much valuable instruction at the price. The specimens presented in this number of the MAGAZINE fairly represent the pictures of the second series, which will be sent postpaid to any address on receipt of $1 sent to the office of this MAGAZINE. The pictures are *fac similes* of these here shown, made by the automatic process described in our December number.

ALICE BRUCE STARK.

[WE seldom punish our readers with "poetry," but there is such an air of sincerity and appreciation of good work about these lines, coupled with a commendable resolve to try and find the way to emulate it, that we willingly break the rule and give them a place. If received with the right thoughts, they must do good to many.—ED. W. P. M.]

Ein subject most fair,
  Is dot Alice Bruce Stark,
Mit bright golden hair,
  Unt (och! maybe 'tis dargk);
However, it vas, it
  Makes much, "awver nit,"
'Twas not my good fortune,
  Such ein model to sit.

Mit dose bleck turgkey tips,
  On der chick-a-dee bonnet!
So proudly shtuck up
  By der flowers upon it;
Dot shweet bensive mouth,
  Mit dose Cupid-bow lips,
Must play by der boys,
  Some heart-breagking tricks.

Dot nose chiseled perfect;
  Dose green twingkling eye;
Vos look up so meekly
  Into der blue sky;
Der fine moulded chin;
  Der ear of der pinkest,
Peeps out by der golden locks,
  Glittering mit trinkets.

Dos polka-dot shirt vront
  Mit stripes up and down,
Dot remind one so much
  Of der "der man about town;"
Und last, but not least,
  Comes der mutton-chop sleeve,
Though filled up mit detail,
  Vould make ein poor meal.

Now, take der ensemble,
  (I mean by der whole),
It makes mein heart jump like
  Yer grab some new goal!
I'm only a poor little
  Dutch photo-graph'-er, but
I bedt you I pull by
  Der mud out hereafter.

I'll get me a move on,
  Now, say don't you mention,
Und take ein a trip.
  To der next State Convention.
To learn by mineself, or
  Some prizes to win,
Und have some more sphunk
  By der business I'm in.

Yours truly, "DUTCH JAKE."

LEBANON, PA., June 9, 1896.

THE APPLICATION OF ART PRINCIPLES.

I BELIEVE that any photographer must of necessity find the application of art principles beneficial. It does not do to keep too close to reality. True art must not simply copy; it must embellish, yet not impair or destroy originality. These are points which only the intelligent operator understands. The retoucher must be able to separate the

superfluous from the essential with not too great precision. The finger-tips should be imbued with the spirit of suggestion; to make an eye more brilliant, yet not piercing; a mouth more expressive, not changed; to retain a wrinkle in its admirable beauty and strength, as the expression of either wit, humor, or pathos in the subject. Thus should the retoucher preserve personal traits, ever keeping in mind not to flatter, but rather ornament, making every touch in harmony with the operator's lights and the texture and color of the skin. The average person may want to look more beautiful than he or she is; but the intelligent one desires to preserve the selfhood which the years have traced. This renders it desirable that a retoucher should be able to read character and discriminate when looking at a negative. But the dignity, the emotion, and personality of every *figure* is dependent upon the operator, and he it is who should be able to interpret the inner significance of his subject, and understand uniting the position and the individuality harmoniously, if he would apply correct rules of art in composition. He must first get behind the external features by æsthetic inquiry, and then strive that his results shall not only translate but shall be transcendental over the best actual which he discovers. This substantiates my idea that an operator, to be eminently successful, must be a man of intellect and innate perceptive abilities, in sympathy with the spirit of art, and able to make a thorough analysis of beauty and its exponents. He should, by a stimulus beyond sensuous feeling, cultivate his taste and appreciation, study the principles as found in the inexhaustible harmonies of Nature, and avoid mannerisms and mimicry. We touch the ideal in Nature as nowhere else, and well-directed thought will revolutionize the conception of the beautiful, and crown life with the deepest and most sublime significance. It has been maintained that Raphael's groups in the Vatican, the works of Da Vinci, Correggo, and other great masters in art, are copies of Nature. "The triumph of art is not shown in making the eye a microscope, but in making it the interpreter and organ of all that can touch the soul." The freshening breeze, a drifting cloud across the blue, the wild, wide sea, the stars that sing when all the heavens are hushed—these are the things that touch my soul.—HERBERT RANDALL, Ann Arbor, Mich.

I do my best always—as far as the conditions will admit—to make my work pleasing from the art side as well as from the technical side. Some patrons do not appreciate the extra trouble this calls for, but the best class of my customers notice it and are willing to pay more for such work. —A. B. COMSTOCK, Waverly, N. Y.

The persistent application of the principles of art, by which the photographer's work is given a higher and more lasting value, never fails to bring its reward. We need all the help we can obtain along this line; our subjects are so varied in character, and the time of each sitting so short, that one must know immediately just what each subject requires to produce the most pleasing results.—H. H. H. LANGILL, Hanover, N. H.

Artistic work is always more pleasing than that which is simply photographic, and to please the discriminating patron is to increase business.—E. E. BROWN, Eastport, Me.

I attribute much of my success to the diligent application of the principles laid down in Burnet's *Essays*, *Photographics*, and the annuals for the production of artistic work. Much benefit has also been derived from the study of paintings and such prints as I can obtain. The observation of personality and character in the

people I meet has further helped me.—E. J. McCULLAGH, Stockton, Cal.

No photographer can expect to succeed, nor does he deserve success, unless he makes every effort to put out work which will satisfy the artist as well as the customer. It is not as difficult as is supposed, if the well-known principles derived from the work of masters are taken one at a time, and applied as constantly as possible.—N. W. PEASE, North Conway, N. H.

I find my work becomes more profitable and more satisfactory by the application of the rules of picture-making. It is a matter of growth, and quite as well worth the photographer's attention as technical methods and formulæ.—K. T. SHELDON, West Winsted, Conn.

Sometimes I think that the application of artistic quality in photographs must be confined to those who live in large cities. Plain country people seem to desire only a clear and highly glossy photograph, and it does not pay me to try to educate my patrons to appreciate something which they do not recognize as desirable. I wish it were otherwise, but one has to earn his living!—E S. KIBBE, Hartington, Neb.

Do I find the application of art principles profitable in my work? I cannot tell. I do my best to please my patrons and myself, and my business grows all the time. I try to improve, and believe there is improvement; but oh, the lack! What I want to do, and what I do. How can I be satisfied?—CHARLES W. STAFFORD, Chicago.

SOME NEW BOOKS.

Les Rayons X. By CH. E. GUILLAUME. Copiously illustrated with examples. 144 pages. Published by Gauthier-Villars & Co., Paris, France. Price, 3 francs. This is the second edition of Mons. Guillaume's excellent treatise on *Radiography or X-Ray Photography*. For those who read French it is a useful summary of the results achieved in Europe up to date.

Movement. By PROF. E. J. MAREY, of the Institute of France. Translated by ERIC PRITCHARD. 322 pages, with 200 illustrations. Published by D. Appleton & Co., New York. This latest edition to Messrs. Appleton's International Scientific Library is one which will be found of special interest to photographers. It deals with the researches of Prof. Marey in the photography of the locomotion of various species of animals, and the movements of men in exercises such as walking, jumping, etc. The work deals with its subject in a most minute manner, giving the fullest detail in the methods of chronography. It is a remarkable showing of the possibilities of instantaneous photography in the hands of a specialist.

Photographic Surveying, with the Elements of Plane Perspective. By E. DEVILLE, Surveyor-General of Canada. Published by the Canadian Government. In this book Mr. Deville makes known the practical methods of photographic surveying employed for some years by the Canadian Government Survey. He deserves the appreciation of all engaged in this interesting application of photography for the painstaking thoroughness which characterizes his treatment of the subject. The book surpasses, in clearness and practical usefulness, any other work on the subject known to us, the illustrations being especially valuable.

Annuaire Général et International de la Photographie. Edited by MONS. E. M. MARC LE ROUX. With many illustrations and photogravures. 536 pages. Published.

by the Librairie Plon, Paris, France. Price, 5 francs. This is the first of the 1896 year-books, and certainly exceeds in bulk all previously published annuals. The contents are divided into sections, including original articles on photographic subjects, reprints of processes and methods of the year, alphabetical lists of the members of the leading photographic societies of France, and much other interesting information. The engravings and photogravures are excellent specimens of process work as it is done in France to-day.

Eder's Year-Book of Photography and Reproduction Work, 1896, published by William Knapp, Halle, A. S., Germany, has just made its appearance. It is one of the best of the annuals, full of practical matter, and rich in helpful articles bearing on process work of all kinds. The examples of new reproduction processes given are admirable; among them we notice a page of studies by Mr. B. J. Falk, of this city, printed on glacé bromide paper by the Berlin branch of the Automatic Photograph Co.

The A B C of Retouching, by ANDREW YOUNG, is the sixth volume of the Popular Photographic Series published by Percy Lund & Co., Bradford England. It is a simple, practical guide for the retoucher, and contains several examples of "before" and "after," with a valuable chapter on the Anatomy of Expression.

METOL-HAUFF AS A DEVELOPER FOR BROMIDE PAPER.

BY JULES FUERST.

THE popularity of metol-hauff as a developer for bromide prints increases steadily as its good qualities become known. It is now generally ackowledged that metol is not only an excellent developer for soft results, as was at first supposed, but also a vigorous developer when contrast and density combined with detail are desired.

A concentrated solution, made after the following formula, will give exquisite results:

A.—Metabisulphite of Potassium	1	oz.
Metol	150	grs.
Water	10	ozs.
B.—Carbonate of Potassium	2½	ozs.
Water	12	"

For use take 1 part A, 1 part B, and dilute with 10 to 20 parts of water.

Latterly it has been recommended to increase the quantity of sulphite of soda in the metol developer for bromide prints to increase the detail and avoid tendency to fog, as would be the case if the quantity of carbonate of potassium were increased. The simplest manner of attaining this end is to replace Solution B by the following:

Carbonate of Potassium	3½ ozs.
Sulphite of Soda	3½ "
Water	17 "

and using in practice 1 part of this to 1 part A, and diluted with from 10 to 20 parts of water.

As a restrainer and fog preventive a 10 per cent. solution of bromide of potassium should be used, a few drops of this being sufficient to clear the print from any apparent fog. If it is desired to exert an even greater restraining influence, obtaining at the same time greater detail and softer results, a 10 per cent. solution of hyposoda may be substituted for the bromide of potassium solution and employed in a like manner. A great advantage in the use of metol in this direction results from the fact that, by the addition of a small quantity of new developer from time to time, the developer may be used repeatedly.

Artistic effects by masking the negative. The following method was used in the printing rooms of Salomon and Luckhart, whose prints have been so much admired and rarely, if ever, approached for delicacy and richness. :

The artistic effect of a portrait is undoubtedly heightened when the head and hands (giving the latter a secondary importance) are brought in the foreground, while the dress, surroundings, and accessories are kept subdued.

To accomplish this, it is customary to cover on the ordinary printing-frame the face, hands, the linen, etc., with pieces of black paper cut of suitable size. This covering is done after the whole picture has been fully printed. The negative is now exposed to light again, and the ununcovered parts are considerably overprinted.

Finally, the finished print may be exposed again under a clean plate of glass, the face, etc., being covered, and by means of cotton a vignette may be formed around the head.

The cutting of the masks, as well as the printing, is very tedious, and requires time, and for this reason the following method recommends itself when it is the object to bring out by continued exposure the details of over-exposed parts, as, for instance, white dresses, laces, etc. :

A dark alcoholic solution of aniline red (fuschine) should be prepared. A few drops are added to a rather limpid plain collodion. When the latter is poured on the back of a negative it will leave an even red film. When this has been left to dry, those parts which are not intended to be covered are easily removed with a small spatula cut from soft wood. Moistening the wood with the tongue facilitates the operation.

The covering may be employed as well for the face as for dress and hands, and particularly for graduating the background, or keeping the light tone of the hair of blondes. In the latter case, repeated coatings may be resorted to in such a manner that the face receives only one coat, while the hair has two layers of the collodion film to protect it and keep it light.

Harmonizing an outdoor scene. Supposing we have a view with a foreground of grass, dark and sombre in effect, whilst the house, the shrubs, the trees in the distance beyond, are lit up by a brilliant light, which prints repeat of projecting objects upon the ground. Can we not brighten up the foreground to make it harmonize and to form part of the scene beyond? The following dodge will help it wonderfully: Carefully observing the direction of the light as it is seen to fall on the distance, prepare a mask that in outline describes a projecting wall, a hedge, or tree—something that suggests forms, which, without, rise invisible. When the foreground is printed the requisite depth to match with the sunlit parts beyond, apply the mask, having turned-up edges, and as the printing proceeds move the card from time to time a little distance, which prevents hardness, for shadows falling from distant objects are never hard, they melt. The printing in the immediate foreground should be carried deep, to give solidity and perspective to the picture. A surprising change in the pictorial aspect of a print is wrought by the simple dodge here described; a heavy lifeless scene is by it converted into one that looks art, for dull monotony is broken by pleasing lines of light and shadow.

The use of dyed matt varnish. It is probably in the after-treatment and printing of a negative that the real skill of a man makes

its mark. It is not very generally known that ordinary matt varnish will dissolve a certain quantity of metal iodine. This renders it a yellow color and causes it to stop much more printing light than does the ordinary matt varnish. Proceed thus: To two ounces of ordinary matt varnish add a few flakes of metal iodine. Shake gently, until a saturated solution is obtained (a little iodine goes a long way in the matter of a color); when saturated, take half an ounce and add an equal quantity of white matt varnish. To another half-ounce add double its quantity of the colorless. Thus we have four grades of color, viz., saturated, half-saturated, one-third-saturated, and clear. They may be applied to the *clean* glass side by the aid of a fairly large camel's-hair brush. Any excess when dry may be scraped away with a knife, and the part cleaned with a bit of rag moistened with methylated spirits.—*Amateur Photographer.*

Porcelain Effects. A simple method of obtaining soft porcelain-like effects on matt-surface printing papers was thus given before the South London Photographic Society by Mr. B. J. Edwards:

The negative receives on its back a coating of sensitized tacky gelatine or gum, prepared as for the dust process, and for the preparation of which we have published several formulæ during the past month. When this coating has been dried the face of the negatives is directed toward the light so as to print an impression through the glass upon the sensitive film on the back. This film thus becomes "tacky" inversely to the action of the light; hence the very deepest shadows are thoroughly hardened, while the most opaque portions are tacky, the intermediate parts being also so in a medium degree. When plumbago is brushed over the surface the result is that a second negative is formed upon the back of the primary one, the latter being, of course, much sharper than the former.

The method in question offers certain advantages, inasmuch as pictorial effects may be obtained by brushing the plumbago—and thus developing the image—in certain parts only, to the exclusion of others. But it is evident that the best effects can only be obtained on a very thin negative, or one taken expressly with a view to its being thus treated; for a negative of the ordinary kind, in which the high lights have already obtained their full quota of density, would, by the treatment now recommended, have that density so much increased as to render the negative quite impossible to print from.

There is another mode of improving negatives, and one which offers advantages of a far more important kind than the method just described — that which is based on the same principle, and has stood the test of practice during three years in the skilful hands of Mr. Whitefield. On the *face* of a thin negative—such as one made for printing on a glacé collodion paper—is applied the sensitive mixture, which, after being dried, is exposed to the light under the negative, so to speak, this being effected by merely holding the back of the negative to the light for a minute or two. The powdered plumbago is now brushed over those portions only which it is desired shall be intensified. The power of local intensification thus conferred is one which by an artist of skill and taste may be utilized for the most important purposes. In portraiture the face may be produced with the utmost degree of brilliancy, while all the rest of the figure may be kept in any desired degree of subservience; this, in landscape work, will be simply invaluable. How seldom, for example, it is that trees receive the right amount of exposure which enables them to print properly; and more especially is this the case when there is a

light-colored house in the scene on which the photographer bestows his main efforts. By the adoption of Mr. Whitefield's method this inequality of illumination may be entirely avoided; and not only so, but the tables may be even turned entirely.

It is worthy of notice that the sensitive coating may be applied to the negative not merely after it is dried and varnished, but also immediately after being fixed and washed, and while it is still wet.

After the application of the plumbago the negative is exposed to the light to remove the last traces of stickiness; it is then washed with acid, as directed, and varnished.

EDITOR'S TABLE.

THE COLUMBUS CONVENTION.—The sixth annual exhibition of the Photographers' Association of Ohio opens at the City Hall, Columbus, July 14th, and will continue in session three days. Never before in the history of the Association have the prizes been so valuable and so well worth the effort to obtain them. The Salon Committee has engaged the services of the best talent that could be secured in the country for two illustrated lectures on Art. These "Art talks" are being prepared for the especial need of those who aim to get more thought and feeling into their work, and will be the most practical and most instructive ever given before a photographic society in this country. The Ohio Association leads the National as well as the State societies in the value of the instruction given its members. The cream of the Chautauqua Convention has been forwarded to Columbus. A valuable collection of high-grade amateur work will be on exhibition. These, with the regular prize entries, will make a collection well worthy of study. Photographers of Ohio, do you know what your State is doing for you? Come to Columbus and find out. Those who have not received a copy of our souvenir containing

to pr... ever, only happens where old-style burnishers, with solid rollers, are in use. Where JAMES H. SMITH & Co.'s Globe Enameller is used there is neither dirt nor perspiration for burnishing machine or the person operating it. The Globe Enameller is a benefit to humanity. Do you use it?

A PLEASING form of invitation to visit a new studio is that sent us by Mr. W. SCHULTZ, of Summit, N. J. We reproduce it for the benefit of all, wishing Mr. SCHULTZ every success:

"The pleasure is mine of announcing to you that I have opened a photograph studio on Maple Street, Summit, N. J., which is worthy of your attention. You are cordially invited to come and see the fine appointments of the new studio. All styles of Artistic Portrait Work take a fresh impetus with the better facilities of the new establishment.

"Respectfully yours,

"WM. SCHULTZ."

THE NEW LIGHT.—Mr. EDISON is said to have discovered a simple means of making visible the invisible X-rays, and securing thereby a new light compared with which the arc and incandescent electric lights are shadows. Let us hope this wonderful discovery will materialize in a more substantial way than our late friend, acetylene.

THE SUTER LENS still holds its own in many of the leading studios despite the noisy claims of its more modern rivals. We give a recent letter sent by Messrs. ARTHUR & PHILBRIC to Messrs. ALLEN BROS., Detroit, Mich., the sole American agents for Suter lenses:

"We have used the Suter lens for a number of years in our studio, and are pleased to say that we have always found it do first-class work in portraiture as well as groups.

"Very truly yours,

"ARTHUR & PHILBRIC."

READ *Mosaics*, 1896, as an aid to help you to appreciate what you saw at the Convention at Celoron. A few copies only remain unsold. Paper covers, 50 cents, post free.

CAUTION TO THE CRAFT.—Whereas one E. N. BAKER and his partner, one HAUSEN, are travelling throughout the United States and Mexico—last news of them in Mexico—swindling the photographers wherever they go, I would say, *Look out for them.* They want you to make negatives and photographs for half-tone work, pay you for the first lot, but "light out" owing you all they can. I know of mourners all the way from $2 to $60. BAKER is an American, 5 ft. 9 ins., gray, very shrewd, light complexion, small features. HAUSEN is a Jew, 5 ft. 4 ins., red complexion, big nose, prominent eyes. *A pair of scoundrels.*

For further particulars, apply to J. PITCHER SPOONER, Stockton, Cal.

AN excellent mountant recently put on the market is Carter's Photo-Library Paste, which is obtainable from dealers everywhere. Those who are scrupulous about the quality of their finished work should see that the finishing-room is equipped with Carter's Paste. We have used it for some time with great satisfaction and can recommend it with a clear conscience.

AT the last meeting of the New York Camera Club an exhibition was given of views at home and abroad, in the colors of Nature, by the process of Mr. R. D. GRAY, an example of whose work was given in our March number. The wonderful effects secured by Mr. GRAY were warmly applauded. At the close of the exhibition the triple sciopticon of Messrs. J. B. COLT & Co., specially designed for projecting Mr. GRAY'S color pictures, was shown and its working explained.

THE business of OSCAR FOSS, established in San Francisco for many years, has been bought by Mr. H. Y. J. SHILLCOCK (formerly MONAHAN & SHILLCOCK), who will conduct the business in the future. Mr. SHILLCOCK is well and favorably known among the photographers of the Pacific coast, and we bespeak for him the patronage of our Western subscribers.

To any amateur camera club or society who have regular club- or meeting-rooms the BAUSCH & LOMB OPTICAL COMPANY, of Rochester, N. Y., will send free of charge, express paid, one of their Test Charts for testing lenses, neatly and substantially framed in antique oak. This Test Chart is the best, most accurate, and simple means of determining the actual optical value of a lens, and every society should have one.

TO THE FRATERNITY.—The destructive tornado which visited St. Louis on the evening of May 27th, carrying ruin and desolation in its path, took off part of the roof of our factory, and the rain, pouring through the opening, damaged a considerable portion of our stock. Fortunately, no one on our premises was either killed or injured. We are having repairs made with all possible dispatch, and, as our machinery and plant are still in good order, we expect to be in shape to resume work in a few days, and take this public method of thanking the many kind friends who have inquired in regard to our safety and have extended their sympathy to us.

Yours truly,
G. CRAMER DRY-PLATE WORKS, St. Louis, Mo.

THE announcement of the AMERICAN ARISTOTYPE COMPANY, to be seen on the inside of the front cover of this issue, is one which inspires confidence in the specialties of this company. Their effort to place permanent papers before the fraternity deserves success, and, from what our correspondents tell us, this desirable aim is being realized. Great is Aristo-platino!

"Do you use Mucilage?" If you do you will do well to send to Messrs. CHARLES M. HIGGINS & Co., 168 Eighth Street, Brooklyn, for a copy of their circular with the above heading. It is an interesting account of their Taurine Mucilage, and worth careful reading.

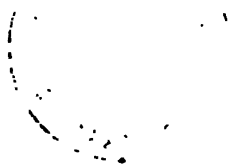
MICHIGAN PHOTOGRAPHERS should send to J. E. WATSON, 146 Woodward Ave., Detroit, Mich., the Secretary of the P. A. of Mich., for a copy of the circular letter just issued by the Association. It contains several pages of information of interest to every photographer in the State.

tensified. The power of local intensification thus conferred is one which by an artist of skill and taste may be utilized for the most important purposes. In portraiture the face may be produced with the utmost degree of brilliancy, while all the rest of the figure may be kept in any desired degree of subservience: this is

AN International Photographic Exhibition is to be held at Bristol, England, in December next. Medals will be awarded in all the classes. Copies of the *prospectus* can be had on application to the Secretary, Mr. M. LAVINGTON, 20 Berkeley Square, Bristol, Eng.

W. M Hollinger. *Dayton, Ohio.*

PORTRAITS.



A. N. Camp. *Jamestown.*

STUDY, SELECTED FROM PRIZE EXHIBIT, CLASS A.
CELORON, 1896

always cordial and sometimes amusing. Some of the "bright-lights" of the larger cities who had been rivalled by others of their tribe located at some distance from them, unseen and unknown, and had been indulging in no little jealousy, were not a little surprised, when the two were brought together, to find "nothing to be afraid of" in their neighbors. A good and manly spirit prevailed, and all, like the cedars of Lebanon after the defeat of the Babylonian King, declared, mentally if not otherwise, "No feller is come up against us."

Goldsmith once said:

"Man is always talkative."

But *The Ground-Glass* feels sure that it will not be accused of garrulity if it dilates a trifle upon this grand feature of the convention. Seated upon the platform of the Auditorium after the adjournment of a morning session it witnessed the growth of the good results which come from fraternal contact. In the shaking of hands; in the buzz of the voices; in the earnest examination of the appliances spread abroad in the great semicircle occupied by the manufacturers; all along the other parallel semicircle formed by the desks of the dealers; in the crowded passages and aisles; in every sight and sound around, an outspoken friendliness abounded. Everyone, moved by the kindredship which exists among those who are accustomed to the same experiences, possessed of the same aspirations, and governed by the same principles, was affected to a general friendliness which drove away all feelings of strangeness. Only good could grow from this. It was well-named "a bit of the millennium." It was like an experience amid the beauties of Nature where one feels "a sweet and beneficent society" in all of the surroundings; where everyone seems to be "the nearest of blood." May photographic health and good-cheer follow it all during the whole year which is to intervene before we meet again at Celoron.

The first regular meeting, on Tuesday morning, was a notable one. Order was called by the President, using a carpenter's nail hammer as a gavel. After those who look upon the Constitution in our organization as the mythological bull regards the red-dyed rag (*i. e.*, as a thing to be constantly "monkeyed" with) had been set at rest, the veteran Jex Bardwell spoke. He advocated more interest in the too long neglected stereoscopic picture. As to this he spoke wisely. But when he urged that the management offer prizes to employés he did not speak with the experience of a modern employer. If his advice was followed the prizes would not go so surely to the one whose imprint is upon the card. The proprietor of the circus and the acrobat would clash.

What Mr. Bardwell said was followed by an earnest plea by the next speaker, Dr. Edward L. Wilson, for the Bardwell "Home." It really looks now as if the pet project of *The Ground Glass* was nearing realization.

The appearance of Mr. Bogardus gave pleasure to the members of the old N. P. A. who were present. The younger workers greeted his determination to "spend the remaining years of his life in advocating the art claims of photography" with much enthusiasm.

This had not subsided when Mr. Charles Hetherington, following Mr. Bogardus, announced the hours for the "School of Photography." He gave all present a piece of his heart when he said: "I am glad to see so many here and to see you all so enthusiastic in your work and the work of the convention. We are here for the purpose of exchanging ideas, and with this thought in view we have established a school of photography on these grounds to last as long as this convention lasts. I want to see you all there. We will form classes embracing every branch of photography. We do not claim

to know all about it. It is not a school of one professor and many, or few, scholars, but it is to be a school where all should be teachers and all students. Then it cannot fail of success, and in itself will be well worth the cost and time taken to attend this convention."

The Ground-Glass gladly testifies to the unselfish and excellent manner in which Mr. Hetherington conducted this "School." It was most highly appreciated. A large attendance at every session gave assurance of this and displayed the thirst for instruction which exists among the members of the craft. Mr. Hetherington's sincere determination to make his "School" helpful could not be doubted. It was apparent, too, in every paper that was read before the convention that its author meant to help and teach. These papers were not a few. The management invited this help from some of the best workers and writers at a late hour, but they met with a very creditable response. All efforts in this direction were highly appreciated, as *The Ground-Glass* suggested they would be. Let such form a feature of all future conventions.

Although there was no suggestion beforehand that this would be so, the paper read by the conductor of *The Ground-Glass* upon "Some Thinking about Thought" seemed to supply the key-note for the addresses which followed. "More thought" sounded through them all.

Mr. Bowersox, in his report upon "The Progress of Photography," summed up by saying that "the most needful thing is to realize our art-poverty and strive for higher attainments." Mr. George B. Sperry, with all his natural fervor, plead for "more feeling, more thought in the pursuit of our art. Art is born in the striving for something better," said he. Mr. Sperry also took occasion to hie a great boulder at *The Ground-Glass*. He censured "the editors of the journals" for "speaking well of all of the pictures they inserted in their publications," and declared for "more criticism." Therein Mr. Sperry exhibited his unfamiliarity with work editorial. Nearly or quite all of the pictures which appear in our magazines are sent as "complimentary," so that it would be extremely discourteous to point out their shortcomings publicly. Would Mr. Sperry stand that? If so, we wish he would give a chance at some of his own excellent pictures. It would help the fraternity, we well know, if we could criticise some of the pictures we engrave, but it would, it is feared, close up the supply. Mr. Sperry was eloquent in his tribute to art.

Mr. R. M. Hemperley's paper on "Generalities" was a very excellent one, wherein he gave glowing tribute to the benefit—to the æsthetic start—he had received from the photographs of Mr. James Landy, illustrating "The Seven Ages of Man." These were exhibited at the Centennial Exhibition, 1876. They had given him, he said, subject for thought ever since, and caused him to pursue the artistic side of photography with a new understanding. Mr. Hemperley also struck a sympathetic chord among his large audience when he "scored" the photographers who break prices and resort to "fake" measures, "tickets," etc. for obtaining business.

And so the good thoughts abounded day after day from those whose wonderful works hung close by. Mr. Ben Larimer sounded a word of warning to those who show a tendency toward becoming convention-al; *i.e.*, "putting forth their best efforts for the convention exhibitions and giving their poorest work to their patrons at home." Mr. John S. Schneider advocated "best attention to both mechanical effects and the reaching out after the

beautiful, for the photographer who d‹ es both has become an artist."

Mr. C. O. Towles intimated that "the portrait is a record of facts, while a picture is imbued with life and feeling." "Make a friend of every customer," said the genial J. Ed. Rösch, of St. Louis. "The ability to do so is one of the greatest of helps toward the procurement of good negatives."

More than once the even-tempered Dr. George G. Rockwood, the veteran of the Broadway photographers, appeared upon the platform and under the "School" skylight. He was always greeted with hearty cheers, and he always had something practical to say. or show. Everybody smiles when he tells how many years he has wrestled with the camera, for his youthful "carry" does not bear up what he says. But when he relates his experiences and exposes and explains the points thereof, then all listen, look, believe, and understand. One of his very best efforts was at the "School" one afternoon. His remarks there will be found recorded in full on another page, but only an inspired camera with an extra quick shutter could render his climax. He was explaining how to make the action in the picture suit the words of the actor. For example: How to get go and life in the picture. He illustrated it by relating one of his experiences with an artist-actor, ending with an impromptu attitude. This almost transported his audience to the memory of one of our departed tragedians as we have all seen him in the play. It was very dramatic and very fine. Long live the generous Rockwood to come to the conventions and to minister to the knots of eager disciples who always gather about him whenever there is a chance to quiz and question him and absorb his teachings. *The Ground-Glass* must be pardoned for this display of "feeling." Dr. Rockwood has crept up with us for thirty-five years, and we rejoice in his preservation. He is as good as some of our old ammonio-nitrate prints and collodion negatives.

The opening address of President Bellsmith is worthy of careful consideration. There are many who will sympathize with his suggestions; but *The Ground-Glass* cannot. How affairs change! When the P. A. of A. was born, its young and vigorous constitution could not assimilate any proposition which came from a "dealer." No manufacturer or dealer could become an officer, said it. Tonics were administered, however, gradually and thoughtfully and annually until it came around that before many years had come and gone that a dry-plate manufacturer was President of the P. A. of A. Gradually thereafter the corporate body of the Photographers' Association of America underwent a change until now it awakens to the fact that it is "run" if not "owned" by—the President's address explains. This also declares that the "tonics" are becoming too expensive for the "trade" and that the patients should contribute more. Should they? Is not too much money expended every year? Is extravagance necessary? When we next meet at Celoron ought not these matters to be taken up seriously?

The only real unhappy thing observed by *The Ground-Glass* during this wondrously happy week was the disregard paid to the gavel of the President by those who preferred to share the tonics rather than attend the meetings. This hit from the *Journal* will explain:

"The persistent transaction of outside business during the sittings of the convention has been the source of much unevenness and dissatisfaction in conducting the order of business. Various expedients have been resorted to from time to time

to obtain quiet, and stretches of it marked enough to be complimentary to the speaker and convention have been about as few and far between as the oases of a desert."

This was the true trouble: The spaces allotted to trade exhibits were in the front part of the Auditorium, not far away from the seats used for the meetings; in fact, the first completely and closely surrounded the last on all sides, except at the stage. The dealers, etc., paid well for their spaces, and of course were entitled to use them whenever they pleased. Many photographers preferred appliances to art, and they had a right to indulge their preference. But the two did not work together, and much disturbance ensued. It is hoped that the management, next year, will place the dealers back in the "serpentine" annex, and devote the space giving the best light and the most quiet, to the members and their pictures, closing access to the exhibition during the sessions. This ought to give better satisfaction to all concerned and much reduce the quantity of fault-finding. Surely the pictures should have the best space allotted to them.

The greatest signal of hope for the solid life of our art was the number of young photographers present. In conversation with many of these we found them to be live, earnest, and on the alert for every fresh idea possible for them to obtain. This is a cheerful outlook.

The Ground-Glass has not one word to present in a fault-finding spirit. It enjoyed the convention thoroughly and praises the management heartily. But in all its years it has sighed for and sought a more dignified position for us. The public will not accord the respect due us until we show more respect for ourselves. At a convention of artists what would you say if the borders of the assembly-room were garnished by merchants and manufacturers engaged in lazily mixing pigments with mortars and pestles; stirring caldrons of boiling oil; mixing colors on broad slabs with motor-impelled spatulas; or holding resisting hogs by the ears while selecting brush bristles from the rising spines of the "show" animals? It would be "realistic" it is true; but would even the "impressionist" call it dignified?

CELORON EXHIBITS, EXHIBITORS, AND PRIZE-TAKERS.

WHEN an incorporated organization bearing the character of the Photographers' Association of America offers over a thousand dollars' worth of prizes, it is no wonder that there should arise a considerable number of contestants to battle for the pickings, especially as the young army of demonstrators for the plate and paper manufacturers made it their especial concern during the year to "sic" on the ambitious ones and induce them to take part in the æsthetic battle. Nevertheless the hanging committee were greatly surprised when they found that before they commenced their work pictures awaited their attention from the following photographers:

THE CONTEST.

Middle Division.

Arthur & Philbric, Detroit; I. Benjamin, Cincinnati; H. S. Klein, Milwaukee; Van Loo & Trost, Toledo; Allan Fanjoy, Sault Ste. Marie, Mich.; Dozer & McLain, Bucyrus, Ohio; W. K. Minns, Akron; Mountfort & Hill, Burlington, Ia.; A. L. Bowersox, Dayton, Ohio; Baker Art Gallery, Columbus, Ohio.

PIRIE MAC DONALD.

Class A. W. L. Morrison, Chicago; W. J. Root, Chicago; Baker Art Gallery, Columbus; The Decker Studio, Cleveland; I. Benjamin, Cincinnati.

Class B. A. L. Bowersox, Dayton, Ohio; George B. Sperry, Toledo; Dozer & McLain, Bucyrus, Ohio; E. A. Kepler & Co., Detroit; W. F. Brenner, Cincinnati; Arthur & Philbric, Detroit; Fred D. Foss & Co., Chicago; W. A. Pryor, La Crosse, Wis.

Class C. Van Loo & Trost, Toledo; Dozer & McLain, Bucyrus, Ohio; W. K. Minns, Akron; Leo D. Weil, Chicago.

Class D. A. Heineman, Chicago; E. C. Berryman, West Superior; O. Solberg, Decorah, Ia.; Willman, Pittsfield, Ill.; Mayo & Weed, Chicago; Harmon & Werner, Bay City, Mich.; E. E. Mangold, Moline, Ill.; D. Gilbert, Frankfort, Ind.; C. W. Longdon, Huntington, Ill.; Frank W. Medlar, Spencer, Ia.; Loomis, Galesburg, Ill.; Vilmer Studio, Crown Point, Ind.; Hines, Valparaiso, Ind.; Phillips, Lafayette, Ind.; Nicholson & Son, Crawfordsville, Ind.; G. W. Spellman, Springfield, Ohio; J. H. Henrichsen, Cleveland; Klein, Milwaukee; Willis McQuown, Crawfordsville, Ind.; C. A. Rutledge, Kokomo, Ind.; Reinnecke, Muscatine, Ia.; Larrimer Bros., Marion, Ind.; Hassal & Anschutz, Keokuk, Ia.; George M. Strong, Kewanee, Ill.; Harrison, Galesburg, Ill.; H. J. Perry, Aurora, Ill.; E. S. Tray, Jackson, Mich.; W. F. Arnold, Oak Park; W. L. Veatch, Cedar Falls, Ia.; F. S. Sloan, Cairo, Ill.; Harrison, Chicago; Redding, Columbus, Ind.; Greene, Detroit; Beem, Greenville, Ohio; I. De Vos, Waupon, Ind.; George Holloway, Terre Haute; Godfrey, Chicago; O'Neill, Bloomington, Ill.; The Watson Studio, Detroit; M. N. Hughes, Joliet, Ind.; Welte, Owassa, Mich.; George Smith, Cincinnati; C. C. Pike, Noblesville, Ind.; A. C. Ogier, Elyria, Ohio; Zivney, Milwaukee; Ives, Niles, Mich.; S. Morten-

son, Iron Mountain, Mich.; Waterman, Ypsilanti, Mich.; C. S. Bateman, Oberlin; Wheat, Rockford, Ill.; Reeves, Anderson, Ind.; Webster, Des Moines; Durant, Akron; Allan Fanjoy, Sault Ste. Marie, Mich.; Clifford & Son, Muscatine, Ia.; Wilhite & Nicely, Bloomington, Ind.; Berryman, Ann Arbor; Michaels, Sheboygan, Wis.; Charles W. Miner, Fort Wayne; Overpeck, Hamilton, Ohio; Bell, Pa.; H. L. Bushnell, Blandinville, Ill.; A. G. McMichael, Detroit; Babcock, Pontiac, Mich.; Novess, Mt. Clemens, Michigan; White & Co. Art Gallery, Port Huron; Fowler Studio, Charlotte, Mich.; Palethorpe, Greenville, Mich.; Koehne & Bretzman, Chicago.

Class E. Will Armstrong, Milwaukee.

Class F. A. G. McMichael, Detroit; Mayo & Weed, Chicago; Greene, Detroit; Allan Fanjoy, Sault Ste. Marie.

Class G. George Smith, Cincinnati; Klein, Milwaukee; Decker Studio, Cleveland.

Class H. C. Chouinard, Chicago; Fred D. Foss Co., Chicago; C. Russell Baker, Detroit; Greene, Detroit; L. C. Overpeck, Hamilton, Ohio; A. G. McMichael, Detroit.

Southern Division.

Washburn, New Orleans; Moses & Son, New Orleans; Knaffl Bros., Knoxville; Millner, Macon, Ga.; McCrary & Branson, Knoxville.

Class A. Moses & Son, New Orleans; McCrary & Branson, Knoxville; H. C. Hall, Augusta; Knaffl Bros., Knoxville.

Class B. Somers, Memphis; Thuss, Nashville; Motes, Atlanta; O. P. Havens, Jacksonville.

S. L. STEIN.

Class C. Hoffman, Savannah.

Class D. J. Paul Brown, Wilmington, Del.; Homier & Clark, Richmond; A. G. Roberts, Henderson, Ky.; E. B. Peddinghouse, Birmingham; Millner, Macon; A. L. Blanks, Vicksburg; M. E. Schmeddling, Chattanooga; Giers Art Gallery,

Nashville; Washburn, New Orleans; McFadden, Paducah, Ky.; W. R. Cady, Maysville, Ky.; Harrison, Selma, Ala.; Linebeck, Roanoke; Mrs. L. Condon, Atlanta.

Class E. McCrary & Branson, Knoxville; Knaffl Bros., Knoxville; O. P. Havens, Jacksonville.

Class F. O. P. Havens, Jacksonville; M. M. Mudge, Chattanooga.

Class H. McCrary & Branson, Knoxville.

Western Division.

(No name), San Antonio; Guerin, St. Louis; Rösch, St. Louis.

Class A. Rösch, St. Louis; A. L. Jackson, Tacoma; J. A. Brush, Minneapolis; W. T. Dole, Kansas City; Julius Strauss, St. Louis; G. N. Deana, Dallas.

Class B. H. S. Bellsmith, Denver; J. V. Dabs, Sunflower, Kan.; Webster, Oakland, Cal.

Class C. Curtis & Guptill, Seattle; Aune, Portland, Ore.

Class D. P. A. Miller, Arkansas City, Kan.; G. W. Smith, Lamee, Kan.; Stocks, Unionville, Mo.; Knowlton & Co., Lincoln, Neb.; Townsend Studio, Hastings, Neb.; Willis, Lawrence, Kan.; J. F. Walker, Joplin, Mo.; Mitchell, Kansas City; Miss Belle Johnson, Munroe City, Mo.; John E. Barnes, De Soto, Mo.; H. W. Randolph, Atchison; Beck, Visalia, Cal.; Babberger, Atchison; When Studio, St. Louis; J. E. Hahn, Fort Scott, Kan.; Andresen, Wilbur, Neb.; Geo. W. Curtis, Kansas City.

Class G. Aune, Portland; Webster, Oakland.

Eastern Division.

A. N. Lindenmuth, Allentown, Pa.; Dana, New York City.

Class A. Pirie McDonald, Albany; A. N. Camp, Jamestown; Fowler & Prudden, Jamestown; Henry N. Pierce, Providence; *il*bert & Bacon, Philadelphia.

Class B. C. O. Towles, Frostburg, Md.; Horner, Boston; Nussbaumer, Buffalo; Pach Bros., New York City; J. C. Walker, Woodstock, Conn.

Class D. Fennley, Newburyport, Mass.; Mewman, New York City; Spuhler, Haverhill, Mass.; Musser, Harrisburg; C. E. Smith, Greenville, Pa.; F. W. Stiles, Westerly, R. I.; Flodin & Thyberg, Worcester, Mass.; A. Holden, Philadelphia; Van Tassel; D. E. Rowell, Lancaster, N. H.; C. E. Shorey, Lynn, Mass.; J. E. Reed, New Bedford, Mass.; Goldman, Reading; Vorhees, Meriden, Conn.; Schernee, Worcester; Zuver, Pittsburg; Chappell's Art Gallery, Oil City; Krauch Studio, Trenton; Roshon, Harrisburg; A. M. Wiggins, Oneida; Geo. E. Tingley, Mystic, Conn.; J. B. Schriever, Emporium, Pa.; Lent, Albion, N. Y.; H. B. Eggert, Bethlehem, Pa.; Brainerd, Rome; Bosworth, Springfield, Mass.; M. R. F. McCarthy, Binghamton; Grey, Watertown; Carl K. Frey, Utica; Neidic, Newark, N. J.; E. E. Seavy, New Castle, Pa.; John Betz, Jr., Baltimore; Walter E. Talbot, Schenectady; McFarland & Speck, Elmira; Griffin Studio, Scranton; Griffin Art Gallery, Wilkesbarre; T. Henry Black, Jamestown; Rosevear, Toronto, Ont.; Ashman, Baltimore; W. A. Couse, Petrolia, Ont.

Class E. Pach Bros., New York City; Geo. P. Hall's Sons, New York City; William C. Rau, Philadelphia; W. C. South, Philadelphia; Parker Rolfe, Philadelphia.

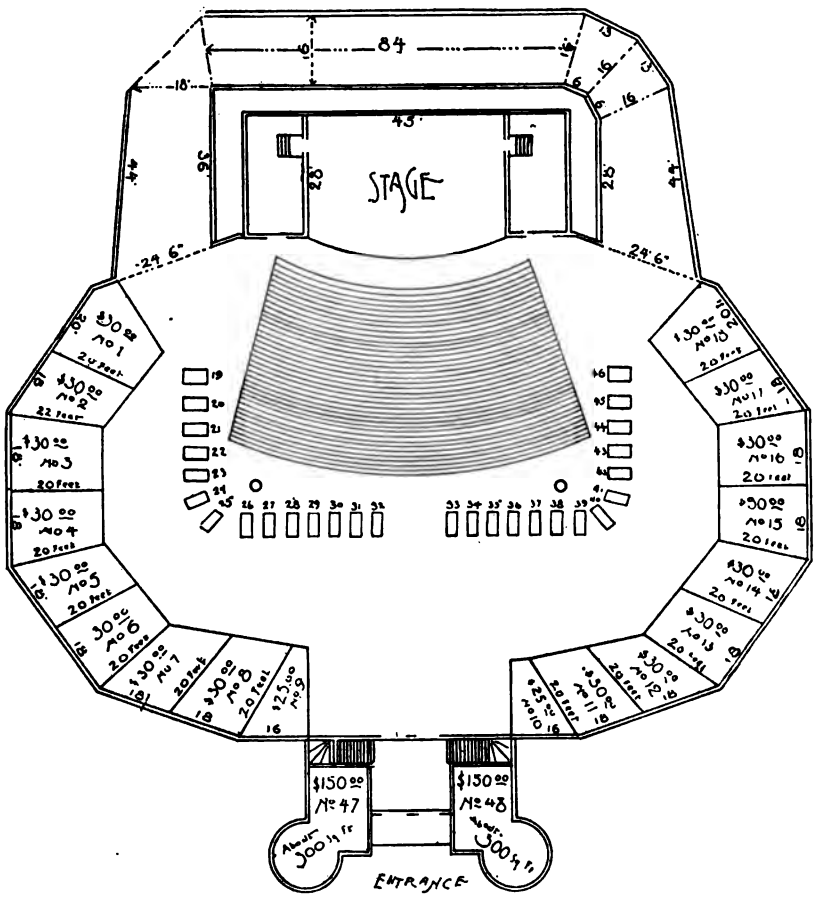
Class F. Wilfred A. French, Boston; Rösch, White Plains, N. Y.; Geo. E. Tingley, Mystic, Conn.; C. C. Langill, Hanover, N. H.; Parker Rolfe, Philadelphia.

Class H. Frank S. Olds, Newark, N. J.; John Betz, Jr., Baltimore; Jackson, Williamsport.

With some additions, when hung in the great serpentine annex of the Auditorium, these formed a most striking photographic

exhibition. To pretend to comment upon the exhibits individually would be a task impossible and unnecessary, for those of our readers who were present took lessons, and those who were not present could not be made to understand. Beginning now, we each division) were chosen in the usual way and promptly proceeded with their thankless task.

The method of judging the pictures was as follows: Forty points were considered both in the portrait and genre classes, but



GROUND PLAN OF THE AUDITORIUM.

From space No. 18 ran the "serpentine," an irregular, narrow hall, wherein the photographs were mainly hung. No. 48, space at the right of the entrance, was occupied by the M. A. Seed Dry-Plate Co. No. 47, at the left, by the G. Cramer Dry-Plate Co. The inside spaces at right and left and the small ones about the seats in the audience chamber were devoted to the manufacturers and dealers.

shall from time to time embellish our MAGAZINE with engravings and reproductions of some of the most notable prize pictures and with portraits of some of our subscribers who were prize-takers. Thus a fair pictorial record will be made.

The several groups of judges (one from with different markings. In portraiture 10 points were allowed for lighting, 10 for posing, 10 for general effect, and 10 for chemical effects. In genre 10 points were allowed for originality, 10 for posing and general effect, 10 for chemical and light effects, and 10 for skilful treatment.

Prizes were given to eleven different classes, as follows:

Genre Class. Three pictures, 13 inches or larger, on any matt-surface paper, subject to be chosen by the photographer, the title to be appropriately inscribed on each picture. To be framed at the discretion of the exhibitor, with or without glass. One gold medal.

Class A. Twenty-four pictures, six of which are to be 16 inches or larger. One gold medal, first; one silver medal, second; one bronze medal, third; one diploma, fourth.

Class B. Six pictures, 13 inches or larger. One gold medal, first; one silver medal, second; one bronze medal, third; one diploma, fourth.

Class C. Twenty-four pictures, 10 inches or smaller. One silver medal, first; one bronze medal, second; one diploma, third.

Class D. A rating competition. Twelve cabinets only. First prize, one silver medal; and to all receiving 21 points or over, a bronze medal.

Class E. Landscapes, with or without figures; marine views or interiors. Six pictures, 13 inches or larger. One gold medal, first; one silver medal, second; one bronze medal, third.

Class F. Landscapes, with or without figures; marine views or interiors. Twelve pictures, 10 inches or smaller. One silver medal, first; one bronze medal, second; and one diploma, third.

Class G. Combination pictures. Three combination prints, size to be left to the discretion of the photographer. One silver medal, first; one bronze medal, second; and one diploma, third.

Class H. Commercial photographs. Twelve pictures. One silver medal, first; one bronze medal, second; and one diploma, third.

Class I. Most tastefully arranged exhibit. One diploma.

Class J. Foreign exhibit. Best collection of photographs, any size, framed or unframed, to be delivered to the Association free of charge. One gold medal, first; one silver medal, second; one bronze medal, third; and one diploma, fourth.

The Awards.

In order that the enterprising ones may all be named, as far as possible, the above list is recorded; and now we add the record of those who were filtered out for favors by the juries of their own choice. A class list is added so that one may see what the exhibit in each class represented.

The grand genre prize was awarded to the Baker Art Gallery, of Columbus, Ohio, and the division prizes were disposed of as follows:

Eastern Division.

Genre. E. C. Dana, New York.

Class A. 1. Pirie McDonald, Albany; 2. A. N. Camp, Jamestown; 3. Gilbert & Bacon, Philadelphia; 4. Henry H. Pierce, Providence.

Class B. 1. M. R. Hemperley, Philadelphia; 2. J. G. Nussbaumer, Buffalo; 3. J. C. Walker, Woodstock, Canada; 4. Carl Horner, Boston.

Class C. One entry, Hale.

Class D. 1. Schernee, Worcester, Mass., silver medal; bronze medals to Newman, N. Y.; Musser, Harrisburg; F. W. Stiles, Westerly, R. I.; Van Tassel; D. E. Rowell, Lancaster; Goldman, Reading; Zuver, Pittsburg; Roshon, Harrisburg; J. B. Schriever, Emporium, Pa.; M. R. F. McCarthy, Binghamton; Grey, Watertown; Carl K. Frey, Utica; E. E. Seavey, New Castle, Pa.; W. E. Talbott, Schenectady; MacFarland & Speck, Elmira; Griffin Studios, Scranton; Griffin's Art Gallery, Wilkesbarre; Rosevear, Toronto.

Class E. 1. Wm. C. South, Philadelphia, 54 points; 2. W. H. Rau, 51; 3.

Pach Bros., New York, and 4 Whitney & Son, each 49.

Class F. 1. William Rösch, White Plains, N. Y.; 2. George E. Tingley, Mystic, Conn.; 3. Wilfred A. French, Boston.

Class H. 1. Frank S. Olds, Newark; 2. John J. Betz, Jr., Baltimore; 3. Jackson, Williamsport.

Class I. Pirie McDonald, Albany.

Middle Division.

Genre. Baker Art Gallery, Columbus, Ohio.

Class A. 1. Morrison, Chicago; 2. Root, Chicago; 3. Baker, Columbus; 4. Decker Studio, Cleveland.

Class B. 1. Arthur & Philbric, Detroit; 2. G. B. Sperry, Toledo; 3. Dozer & McLain, Bucyrus, Ohio; 4. W. A. Pryor, La Crosse, Wis.

Class C. 1. Van Loo & Trost, Toledo; 2. Dozer & M Lain, Bucyrus; 4. Leo D. Weil, Chicago.

Class D. Silver medal, C. R. Reeves, Anderson, Ind.; bronze medals, C. S. Bateman, Oberlin; Webster, Des Moines; Roehne & Bretzman, Chicago; White & Co., Port Huron; N. H. Hughes, Joliet; Frank D. Medlar, Spencer, Iowa; Mayo & Weed, Chicago; D. Gilbert, Frankfort, Ind.; Nicholson & Son, Crawfordsville, Ind.; Spellman, Springfield, Ohio; J. H. Henrichson, Cleveland; Ives; A. G. McMichael, Detroit; Watson, Detroit; Godfrey, Chicago; George Holloway, Terre Haute; De Vos, Wapau, Ind.; Larrimer Bros., Marion, Ind.; Harrison, Chicago; Wilhite & Nicely, Bloomington.

Class E. One entry, Will Armstrong, Chicago.

Class F. Mayo & Weed, Chicago, and A. G. McMichael, Detroit, each 57; 3. Allan Fanjoy, Sault Ste. Marie.

Class G. 1. Decker, Cleveland; 2. George Smith, Cincinnati; 3. H. S. Klein, Milwaukee.

Class H. 1. A. G. McMichael, Detroit; L. C. Overpeck, Hamilton, Ohio; and F. D. Foss & Co., Chicago, each 51.

Western Division.

Genre. J. Ed. Rösch, St. Louis.

Class A. 1. J. C. Strauss, St. Louis; 2. J. Ed. Rösch, St. Louis; 3. J. A. Brush, Minneapolis; 4. W. T. Dole, Kansas City.

Class B. 1. H. S. Bellsmith, Denver; 2. Webster, Oakland, Cal.; 3. J. V. Dabs, Sunflower, Kan.

Class C. 1. Aune, Portland, Ore.; 2. Curtis & Gupthill, Seattle.

Class D. 1. Knowlton & Co., Lincoln, Neb.

Class E. No entries.

Class F. No entries.

Class G. 1. Aune, Portland, Ore.; 2. Webster, Oakland, Cal.

Southern Division.

Genre. Moses & Son, New Orleans.

Class A. 1. McCrary & Branson, Knoxville; 2. Knaffl Bros., Knoxville; 3. Moses & Son, New Orleans; 4. H. C. Hall, Augusta, Ga.

Class A. 1. F. M. Somers, Memphis; 2. W. C. & H. I. Thuss, Nashville; 3. C. W. Motes, Atlanta; 4. O. P. Havens, Jacksonville, Fla.

Class C. One entry, Hoffman, Knoxville.

Class D. Silver medal, J. Paul Brown; bronze medals, Giers' Art Gallery, Nashville; M. E. Schmedling, Chattanooga; Mrs. L. Condon, Atlanta; A. G. Roberts, Henderson, Ky.; A. L. Blanks, Vicksburg; Homier & Clark, Richmond.

Class E. 1. Knaffl Bros., Knoxville; 2. O. P. Havens, Jacksonville, Fla.; 3. McCrary & Branson, Knoxville.

Class F. 1. O. P. Havens, Jacksonville; 2. M. M. Mudge, Chattanooga.

Class H. McCrary & Branson, Knoxville.

Class I. Homier & Clark.

The rules of the Association prohibit the officers from entering competitive exhibits; but, upon the recommendation of the judges, an unprecedented action was taken and the Association ordered an award of gold medals to President Bellsmith, Vice-President Steckel, and Treasurer Hayes. This action was inspired by the worth of these exhibits purely from an artistic standpoint. Thus resulted the great contest. A new interest grew in the exhibits, and excited groups of earnest photographers gathered continually in front of the prizes.

A few general remarks as to the exhibits as a whole may be made:

Notable strides have been made the past year in perfecting the methods and in the careful selection of the accessories used in photography. In fact, it may be said that greater advance has been made during that time than in the entire ten years previous.

A. N. CAMP.

The march of improvement began in earnest at the exhibitions held both at St. Louis and at Detroit. Then the instructions and examples which appeared in this MAGAZINE (the only one which continually and systematically advocates and urges "more art in our art"), and *Mosaics*, with the help of the forerunners of many new ideas, immediately became the guiding light of the progressive spirits of the profession, resulting in the beautiful works shown at the Convention to-day. Leaders have put forth their best efforts and have shown what could be accomplished with the same materials under the same conditions, but with different hands and more thought. There is marked improvement in the work of those who exhibited two years ago, and to-day shows a change for the better that promises richly for the future of the picture-makers. The younger element also is forging ahead, and the introduction of new blood and brains has wrought wonders.

No one feature has received greater attention or shows better results than artistic lighting. This is equally noticeable in the genre portrait and landscape effects and has caused the people who are prone to designate the photographers as mere mechanics to question their faith. As a prominent photographer said, "We can buy everything except brains. Photographers need to work with their brains as well as with their fingers." The manufacturer has met the operator at every turn, and no request for newer and more improved apparatus has been allowed to go unsatisfied. The dry-plate manufacturer, the apparatus-maker, the paper-maker have all been working to the end of securing more perfect and permanent pictures.

"A walk down the long exhibition hall was one of the most enchanting descrip-

tion," said more than one delighted visitor. Many beautiful effects were obtained with carbon prints of various tints. Some of the most striking work in the exhibition was obtained by this process, and, as the awards show, the juries understood its value.

Two or three notable happenings must be mentioned, and then we close. Among the non-competitive exhibits was that of a gentleman who begins to regard himself as a veteran. We allude to Mr. S. L. Stein, of Milwaukee. He has exhibited continuously for fifteen years, and has taken nineteen prizes, seventeen being the highest possible awards, among which was the highest medal given at Paris, and brought to America. Mr. Stein has been located at Milwaukee for twenty years, and has had the training of some of the country's most notable and successful operators.

A. N. Camp, Jamestown.

PRIZE, 1896.

Those who were aware of his courtesies as one of the local Reception Committee rejoiced to learn, and those who admired his excellent work were not surprised when they learned that the second prize in the eastern division was won by Mr. A. N. Camp, Jamestown, N. Y.

Our readers will recall that in our June number we presented engravings of sixteen cabinet portraits by Mr. Camp. Part of these appeared among his prize-pictures. Of this award the *Journal* said:

A. N. Camp, Jamestown.

PRIZE, 1896.

"In the case of A. N. Camp, of this city, the convention will remain more than a memory, for, as will be seen by a glance at the record of the prize-winners, Mr. Camp

retains in his possession the silver medal awarded as second prize in the eastern division.

"While this comes as a triumph to Mr. Camp, it is also a matter for general pride in this city that a home photographer should receive this high marking. Mr. Camp entered in Class A, the highest in the convention, requiring twenty-four portraits. His studio thus came into direct competition with New York, Boston, Philadelphia, and all the cities of the East. It has been a matter of constant surprise to the visiting photographers that so notable a collection of portraits should come out of a city of this size, and the Camp exhibit has been regarded in the nature of a revelation.

"That the victory achieved by Mr. Camp may be the better understood, it may be interesting to note that he stands next to MacDonald of Albany, the winner of the first prize. He has thus won his prize over the exhibits of both New York and Philadelphia, standing second to but four photographers in the United States, and but one, MacDonald, in the New England and Middle Atlantic States. The points upon which the decisions of the judges were based were the natural and graceful positions of the subjects, the fine chemical effects, and the beautiful lighting.

"Mr. Camp and his operator, Mr. Barker, have been the recipients of many compliments from prominent members of the Association, Messrs. Stein, of Chicago, and MacDonald, of Albany, giving the exhibit particularly high praise. The exhibit was printed upon the American Aristotype Company's paper, so the award comes as a double victory for Jamestown."

From the veteran Stein's work, then, and from the exhibit of Mr. Camp, we make selections (alluded to elsewhere) for the beginning of our gallery of the Celeron prize pictures.

Spencer Judd, Sewanee, Tenn.

SPRING CHICKENS ON HAND.

NOTES, NOTIONS, AND KNOWLEDGE GATHERED AT THE CONVENTION.

[READ ALL.]

MR. C. M. HAYES.[1]
President-elect of the Photographers' Association of America.

SOUVENIRS were in great demand at the convention, and very plentiful. Among the most attractive were the following: An enamelled button given by the M. A. Seed Dry-Plate Co.; a gilded badge bearing the bas-relief of "Grover," the cat, with a silk American flag, together with an illuminated cat-a-log, by Mr. W. P. Buchanan, Phila.; a unique scarf-pin with diamonds and rubies set in a metal "Crown," by the Cramer Dry-Plate Co.; a fine album of over forty half-tone views of the great cyclone at St. Louis, May 27, 1896, by the G. Cramer Dry-Plate Works; a series of instantaneous pictures made by using the Thornton-Pickard patent shutter, with a catalogue by Mr. And. B. Cross, representing Andrew J. Lloyd & Co., Boston; an illuminated catalogue (entirely new) of cameras, etc., by the Flammang Camera Co., 180 and 186 West Houston St., New York; and literature by the lapful from the great semicircles of manufacturers and dealers, whose desks and booths hemmed in the audience chamber.

"Made on," "Produced by using," "Special tones with," or "These are printed on" the American Aristotype Paper, met the eye in every direction.

[1] A sketch of Mr. Hayes will be found in this MAGAZINE at page 358, August, 1895.

This last appeared upon the neat circular of Miss Laura F. Martine, 30 N. Ninth Street, Phila., whose lovely miniatures in colors, shown by herself in person, were among the very first things which held the attention of the entering visitor.

"These are stunners," said a delighted photographer when his eyes first met the Taber bas-relief pictures. A company for producing these for the trade is now organized in New York. That is the better way. The company issues these suggestions to photographers:

"The photographer, in making 'sittings' for the bas-relief pictures should use for bust pictures a medium or dark background. The position of the subject is preferred in profile or nearly so. In this position the head should be turned slightly toward the operator, so that the lashes of the further eye are just visible.

"If in some subjects it should be thought advisable to turn the head a little more toward the camera there is no objection. A full or three-quarter face can be made, but by our experience we have found that the nearer the position is to the profile of the face the more satisfactory the picture.

"In lighting the subject, we prefer a Rembrandt lighting, with good detail in the shadows. Avoid black masses of shadow, particularly in the hair, which should be as clearly defined as possible, consistent with this manner of lighting; the negative should be bright and brilliant with plenty of detail."

The burlesque programme of Mr. "Ilo" Miller on the "School" was much sought for. It called the pet project of Messrs. Abbott and Hetherington "The School of Animal Portraiture," and among other things promised to show

"How to take a mule from behind, at short focus, without risk to the camera.

"How to catch the proper expression in a goat's face.

"How to improvise a back-fence accessory for the Thomas cat.

"How to take chickens without overtiming or over-exposure. (The lay of the land and the land of the lay will both be touched upon.)

"How to use the right bark for the right dog.

["NOTE.—It was while making this unparalleled collection that the Professor made the wonderful discovery that animals and fowls could be taken far better on a dark night than in broad daylight.]

"Practical talks will be given on every branch and limb of photography."

A man from St. Louis whose initials are T. E. strutted in one day with a biggety "I know-it-all" sort of an air. He wore no badge. "It was not worth while to become a member." He came in on a "free-to-the-public" pass. He was "converted" while looking at Mr. A. N. Camp's pictures, and gave a great cry as he fell in a swoon. He was carried to the "School" by some friends, where in that healthful atmosphere he revived. He is a "new" man now. He is saved, and will not forget again that fame and fortune in photography mean fight, and that

> 'In peace, there's nothing so becomes a man
> As modest stillness and humility;
> But when the blast of war blows in our ears,
> Then imitate the action of the tiger,
> Stiffen the sinews, summon up the blood."

The promises of the Erie Railroad Company were not well kept. Some delegates were compelled to depart on the second and third day, but were not able to secure the "reduced"(?) return fare because of the red-tape and the failure of the agent of the Erie Railroad Company to be present as agreed to certify to their attendance. Moral: When you go to Celoron in 1897 go by the roads whose agents fulfilled their obligations in 1896.

The carbon process made many friends at Celoron, and no wonder, for the carbon prints were magnificent, and gathered up the greater prizes. These facts caused a great demand for "*How to Make the Best and Most Permanent Photographs in Fifteen Different Colors*," a manual of the carbon process issued by Mr. G. Gennert, New York, agent for Elliot & Son's perfected carbon papers, for use by the single transfer process. New converts to carbon must not be without this manual. It may be had free of cost.

As this manual truly says: "A very considerable revival in favor of this beautiful process has undoubtedly taken place since the introduction of Elliot & Son's perfected carbon tissues; and this, indeed, is not to be wondered at when the possibilities of the process and its extreme simplicity come to be more fully understood.

"To the modern photographer there seems to be an idea that the carbon process is a difficult one, but such is not really the case; it certainly requires some skill and practice to produce the most perfect results, but the same remark applies to every other known photographic process. The development of a carbon print is not a subtle chemical process, but is a purely mechanical one, viz., the dissolving away in warm water of the parts of the pigmented tissue *not* acted upon by light."

"Celoron again in 1897." Yes, of course, naturally. But not again with such a mass of erroneous ideas as were perceived by the bulk of the 1896 visitors. There must be some mistakes. Give them thought, and go next year with the determination to give our art a greater hoist. Don't let the great wheel stick in one position all night.

As a rule technical magazines are generous toward any enterprise which may help growth and progress. But editors are too busy to run after those who manage such enterprises. These gentlemen would have greater success if they gave greater attention to "working the press." Do not let the suspicion arise that you favor one magazine over another. The evil of so doing was too apparent this year, and it injured the cause. If the Photographers' Association of America is to come under the "one-man power," and to be "run" for that alone, why then of course care should be taken to find the right organ.

Many of our greater dealers and manufacturers were advertised by their absence.

Many of the greater photographers did not exhibit. Special inquiry should be made after these delinquents. The benefit of the convention's exhibitions must be limited if the highest artistic standard is not represented, or but meagerly. Let not our standard decline. Let us have the solid work for our exhibitions if we must purchase it.

Surely such an abundance of prizes as was offered does "give everybody a chance," but it calls out a great deal of bad work (an expense to the association), and cheapens the triumphs of the really worthy ones.

Some things should be changed, and the new officers may see it. President Bellsmith did not touch the popular theory in his opening address. If the dealers, etc., "tire of this unjust tax," there are also those who are content to receive less from the dealers. If these are (and these are truly) "conscious who have spent hundreds of dollars for the privilege," etc., their act is voluntary, and sometimes unnecessary, not to say intrusive. The wise photographer well knows that he must eventually bear the burden of all of these "hundreds of dollars," and he prefers to

have some say as to *his* "tax." The present methods keep many out whose presence we all want.

The generous act of the Detroit Committee in presenting their 1895 balance of $242 to the treasurer was most commendable, and just like Detroit the beautiful.

The American Aristotype Co., with their trade agents, Messrs. E. & H. T. Anthony & Co., have won unending praise and obligation for the institution and their support of the Photographic School at Celoron. It was a grand thought, splendidly carried out, and of much more use than trumpeting with golden trumpets.

Mr. John Carbutt's exhibition of Radiography (x-rays) was very wonderful. Many were seen to shy away from it, fearing for their very "innards," especially when they saw a "jackstone" hanging in a little girl's throat. Several visitors who were lost in the "Serpentine" were found with a Carbutt x-ray plate.

Hammer's Little Book, *A Short Talk on Negative-making*, was given away by the Hammer Dry-Plate Co., St. Louis. Thirty compact pages are given by it, of capital instruction. From its chapter of "Hints," the following is taken:

A soft camel's-hair brush may be used to remove the dust from plates before placing them in the holder or dark slide. If the brushing is done hurriedly the film will be instantly electrified and attract to itself more dust than you remove.

When plates are exposed and set away for future development, be sure to set them *face to face*, as they were in the original boxes. If the face or film is placed against the back, you will probably have finger-marks on the film, caused by the fingers coming in contact with the backs of the plates while placing them in the holder.

It is advisable to use a fresh solution of hyposulphite of sodium each day during the hot weather. The fresh solution hardens the film, and alum will not be necessary.

Thorough fixing and thorough washing, followed by quick drying, will insure permanency and fine printing quality in the negative.

The Hammer plates are adapted to all climates and all seasons. They will not melt, soften, or frill with ordinary care in hot weather, and their extreme sensitiveness makes them a favorite during the dark months of winter.

To prevent sand or rust from striking the negatives while washing, tie a piece of cotton-flannel over the faucet.

Negatives exposed to white light before the bromide of silver is thoroughly dissolved in the fixing solution will be foggy, and the printing quality will be injured.

A solution of bromide of potassium (one ounce of bromide to ten ounces of water) should be in every developing-room. When plates are a little over-exposed, a few drops of this solution added to the developer will restrain its action, and may thus produce a good negative from what would otherwise be a worthless plate.

Fine retouchers generally prefer Hammer's retouching varnish. Where it is used, a very soft pencil will work smoothly and not deposit lead in "chunks." The varnish may be flowed over the retouching without injury, thus giving a new surface on which to work, and this operation may be repeated indefinitely. No other varnish is needed when this is used, as paper will not adhere to it.

As the merits of the Hammer non-halation plates become known there is a corresponding increase in the demand. We advise their use especially for interiors, for landscapes and marine views, and for

groups and white draperies. In working them no special formula or method is required.

The Hammer plates require so little retouching that much may be saved in that item alone. If the subject is properly lighted and the plate properly timed and developed, the gradations of light and shadow are so perfect that no attempt at modelling is necessary.

Keep your lens clean. Dust on the lens is often the cause of foggy plates. Brighter and clearer work can be made with a clean lens than with an unclean one, whether it produces fog or not.

William Francis Magie, Ph.D., Professor of Physics at Princeton, uses Hammer extra fast plates in making pictures or shadowgraphs by the Röntgen method, or x-rays.

A large proportion of the silver may be saved from the fixing solutions and print washings, and gold from the spent toning baths, in the following manner: To the print washings add common salt or hydrochloric acid; the silver will be thrown down as chloride. To the fixing solutions add sulphide of potassium; the silver will be thrown down as sulphide. In the toning baths add a solution of sulphate of iron, which will precipitate the gold. Collect the precipitates on a cotton cloth, dry, and send to a refiner. Keep the gold and silver residues separate.

We would direct your attention to the formulas given in this little book. They are all in daily use in first-class studios, and are especially adapted to Hammer plates.

Hammer's Metol and Eikonogen developers, ready for use, are prepared expressly for Hammer plates by the Hammer Dry-Plate Co., and are sold by photographic stock dealers. Ask for them.

With the variety of printing processes now in vogue, the adaptability of the Hammer plate to any required density, or any degree of softness or brilliancy, makes it equally a desideratum to the worker in carbon, platinum, matt-surface, aristo, or albumen.

Local reduction can be easily accomplished by means of powdered sepia and a piece of soft leather, rubbing gently until the object is attained.

Metol-poisoning may be avoided by the exercise of the greatest cleanliness in using this developer, washing the hands frequently. Hauff advises to "rub the hands well with vaseline and dry them before beginning to develop, and then after finishing wash them immediately."

Halation is avoided by the use of the Hammer non-halation plates, with which sure results are attainable. All methods of patching up the back or "doctoring" a single-coated plate are impracticable.

For line engraving and process work use slow plates with double the quantity of pyrogallic acid and sufficient bromide of potassium to hold the lines absolutely clear. Distinct sharp lines are best obtained by using a small diaphragm in the lens.

Better work means better business. It may come a little slowly, but stick to it. Make the best you know how, and you are sure to win.

Use the Hammer Aurora non-halation plate for microscopic work, and you will get finer results than can be obtained on any single-coated plate.

Don't reject other people's ideas without consideration.

Better take a hint, and not make a kick necessary.

"The secret of success is constancy to purpose.—*Disraeli.*

To prevent papers from adhering to the negative use Hammer's retouching varnish.

For commercial work, such as furniture, machinery, crockery, etc., the Hammer Aurora non-halation plate cannot be surpassed.

Keep your skylight clean and note how much more rapid your plates are, especially in dark weather.

For flash-light work use Hammer's extra fast plates. They are unexcelled for groups, babies, etc., and none are more rapid.

The *third* edition of Mr. Cramer's unique "Catalogue" was also largely and liberally distributed. Its character is unique, it is picturesque, and it is invaluable. Everybody should "remember" what it says on pages 18 and 19, namely:

That pyrogallic acid, hydrochinon, metol, etc., are the developing agents proper.

That an excess of these chemicals produces clogging of the whites and too much contrast.

That an insufficient quantity causes slow development, want of vigor and brilliancy.

That sulphite of soda preserves the developing agent and keeps the film from staining.

That the sulphite must be fresh and pure, or it will in itself cause yellow stain.

That a smaller quantity of sulphite will produce a warmer tone, a larger quantity, a gray or bluish-black tone.

That the alkalies, carbonate of potassium or carbonate of soda (sal soda), soften the film and open the pores, allowing the developing agent to act.

That too much alkali will make the negative too dense and cause fog and granulation.

That too little will not allow the developing agent to act and will develop too slowly.

That granulated sodas are twice as strong as the crystals.

That old and dry crystals are stronger than fresh, as the water of crystallization gradually evaporates.

That all chemicals will act with considerably more vigor when warm than when cold.

That an even temperature of about 70° is most desirable for the chemicals and dark-room.

That in warm weather, when the dark-room is overheated, the developer should be used more dilute and cold and the fixing-bath should also be kept cool to counteract the heat of the atmosphere.

That it is best to buy chemicals prepared specially for photographic use.

That over-exposed plates can be restrained by adding a few drops of a 10 per cent. bromide of potassium solution to the developer.

That an under-timed plate should be treated with a fresh diluted developer, and if sufficient detail does not appear take the plate from the developer and, without rinsing, place it in a tray containing water, to which a little of the alkaline solution (sulphite and carbonate of soda) has been added, and leave it there as long as it increases in detail. If it is not then strong enough, the development may be continued in fresh developer.

That a negative dried in a warm, close atmosphere will become more intense than when dried in cooler air with draft.

That all solutions must be kept in well-stoppered bottles.

That it is better to make up solutions often than to use them when old.

That sensitive plates must be kept in a dry place and will not improve with age, therefore see

That the plates you get are fresh.

That 12 parts of carbonate of sodium crystals (commonly termed sal soda or washing soda) are equivalent to 5 parts carbonate of sodium dried or 6 parts carbonate of potassium.

That 2 parts of sulphite sodium crystals are equal to 1 part of the dried or granular sulphite.

Quite a flutter was caused in the front trade semicircle on Wednesday by the

display of several of the awards and medals of the Chicago World's Fair. Mr. J. H. Smith exhibited the first ones to us, and soon after Mr. John Carbutt was found exhibiting his to a circle of admirers.

The full programme of balls, ball-games, collations, moonlight excursions, etc., announced, was carried out, though thunder showers interfered somewhat.

This MAGAZINE supplies the best report of the convention, although the Executive Committee issues an "official" one to its members. Some of our contemporaries in their haste to "be first" had to be worst; and what they print reveals that they depended largely upon the local newspapers. For example, two of these announced Mr. J. Ed. Rösch as the one who recited Mr. Geo. B. Sperry's paper: a big blunder of a local paper. Mr. Sperry presented his own thoughts; very eloquently, too.

Anthony's *Bulletin* declares that there were "1200 in the hall" at the opening session. This may be true; but by actual count from the stage we found there were not 400 who listened to the President's opening address.

One of the most conspicuous figures at Celoron was father Jex Bardwell. Knots of eager photographers were often seen interviewing him. He seemed to spend a great deal of his time among the pictures. Said we to him one morning: "Well, friend Bardwell, how does the photography of to-day strike you?" He answered, "Well, with my long experience I ought to be somewhat of a judge of the good points in a photograph, but after spending considerable time with the examination of one collection and another I have come to the conclusion that I dare not criticise. I see much good work and so much better than I ever expected to see. One thing I notice on close examination of some of the best collections: it is that they can be distinguished from others by a certain mannerism (if you take my meaning), an individuality that promises much in the future." "Do you notice any improvement?" "Yes, all observant photographers must have noted a vast improvement and advancement since our last convention, and this only a year ago. In commercial photography I did not notice much change. In landscape works I am disappointed. Taking it altogether the landscape exhibit is poor."

THE SCHOOL OF PHOTOGRAPHY.

AGREEABLY to their announcement, the American Aristotype Company fitted up a large hall, close to the shores of the lake and on the edge of the park, for a "School." A huge single-slant studio was constructed. Screens, backgrounds, and apparatus; every fitting for printing and demonstrating the use of paper and plates, including a capital dark-room, were provided. The whole width of the building—almost its square—was devoted to the uses of the studio and the teachers and talkers. In front of these was the audience chamber, where seats were supplied for 500 persons. The entire arrangement was excellent and unique in the history of photography. Our first visit was made during the first afternoon, after the instructions had begun. We would give much if we could amply illustrate the surprising picture presented. Every seat was filled, and every foot of standing-room was crowded by interested, eager, anxious listeners. There, in the centre of the studio, stood instructor-in-chief Charles Hetherington, bareheaded, clothed in white (so

far as he was clothed at all, for coat, vest, collar and tie had been discarded), holding forth eloquently upon the subject of posing and lighting the model. The scene was as dramatic as the harangue of Marc Antony to the Romans; and when he held forth a head-screen, drew up the curtains, or with his long fingers changed the angle of the novel side-shade, and the light followed to the subject, one could paraphrase those keen utterances with:

"Look! in this place ran Cassius's dagger through;
See what a rent the envious Casca made;
Through this the well-beloved Brutus stabbed,
And, as he pluck'd his cursed steel away,
Mark how the blood of Cæsar followed it."

It would be impossible to convey an adequate description of the scenes which followed in this school, session after session, day after day. They were always impressive and full of instruction. Hence we add only a few "snap-shots" caught as they flew "like incense in the air" from the lips of the instructors and from the occasions.

We entered the room just in time to hear the teacher say:

"Here, young man, you with the tip on the point of your nose, come this way."

The young man spoken to stepped from his seat and took his place on the floor in front of the class. "Now, ladies and gentlemen," continued Mr. Hetherington, "you see this subject has a turned-up nose; you know you frequently meet with such subjects in your galleries and if you give the sitter satisfaction you must not photograph that nose just as it is. How are you going to remedy it? Take a sable brush and a little water color and retouch the point of the nose when the subject takes his seat in your chair, and you can give him a nose in the portrait that will be entirely satisfactory to him and still retain a perfect likeness."

The subject was discharged and another one called.

"Now here you have a subject," continued the teacher, "with a very long face, and, unfortunately, the hair is thin on top of the head, but you meet such subjects in your galleries, and if you take the picture in a careless way you cannot give satisfaction. I take a brush and rub the small amount of hair he has, the wrong way, until it stands on end. Then I take my water colors again and selecting a dark color I cover the bald spot on the head and comb the hair down over it. When the negative is developed you will give the gentlemen the appearance of having a very respectable head of hair, and he will want to double the original order for pictures. Now to obviate the effect of the too long face I raise the subject's chin as high as consistent, which produces the effect of shortening the face in the photograph; thus you would get a good-looking picture from this homely subject, and still preserve all the features."

Next a subject is called from the school who has very deep-set eyes, and the teacher proceeds to show his pupils how to get the best results with his photograph.

"If this gentleman sits directly under a top light his eyes will be in a deep shadow and unsatisfactory results will be obtained. I bring the sitter as far away from the light as possible, and turn his face toward the light so as to permit it to shine into the eyes, not bright enough to give the eyes the appearance of staring, but enough to lighten them up and bring them out in the negative."

"Now I want a lady with a good complexion and one who has light dress trimmings or lace." In the convention it was not hard to secure any kind of a good-looking subject, and it was not in this case.

"The trouble here," said Mr. Hetherington, "is to make a distinction between the light trimmings around the neck and the flesh of the face. Too often the same

white effect is secured for the flesh color that is produced for light-colored dress goods by using too much light on the face. To obviate this use a cheese-cloth screen between the light and the sitter, thus working in a diffused light and timing the plate well. The same is the case in photographing an old man with white hair and beard. To give such a subject the best appearance you must use a yellowish powder on the beard and hair which will give a clear distinguishing line between the face and the hair and beard. This prevents overtiming on the hair."

A dozen or more subjects with peculiar features were called before the class and pointers given as to securing the best results in making photographs. A short talk was given, with each subject as an illustration.

"A skilful operator," said the teacher, "makes a study of lights and shadows wherever he is. It is not necessary for him to go to his gallery to study the effects of light. He should study them in the ball-room or at church, the same as the trained ear of the musician studies sound; and the trained eye will detect a false light as instantly as the musician detects the false note or the inharmonious blending of sounds. The chief duty of the skilful operator is to make a life-study of lights and shadows and the proper blending of colors, and he should always be the master of the lights and shadows in his gallery."

Almost every sentence of the speaker was a pointer for the operator and the address and illustrations were of absorbing interest to the large class present, as the numerous questions proved. Without attempting to use the language of the speaker, a few of the suggestions made will prove of interest to those who occasionally sit for photographs as well as to the professional photographer.

"Too much light is used in many galleries. Color values are lacking in many pictures.

"A first-class gallery should be provided with a case of water colors for retouching the sharp angles of the faces of subjects, many of whom can be greatly benefited by their use. Mix the colors to suit the complexion of the sitter.

"A drooping eyelid can be obviated by sticking a match in mucilage; then ask the sitter to look down at the floor, and push the surplus flesh back over the eyeball; ask the sitter to look up; let it rest for a moment before removing the mucilaged match, and you will be surprised at the result.

"To get a proper pose you must always place a tall gentleman in a high chair, so that his knees will not reach up toward his chin, giving to the entire body an ungraceful position. This should be done if only the face is shown in the photograph.

"A fat person should never sit for a picture. The sitting posture permits the head to sink down into the flesh. In standing the flesh settles down from the head.

"Width as well as length must be looked for in the operating-room.

"When a reflector is used it should be large and of gray color instead of white.

"A skilful operator gives life and action to his pictures; an unskilful one always takes the photograph of dead people, or at least they have that appearance.

"Red hair should be retouched with a white powder, a little yellow being used to take off the harshness so as to give it a light instead of a dark appearance.

"A short face can be lengthened by raising the camera, and a long one shortened by lowering it.

"Don't use a small lens for taking big pictures. You lose the perspective entirely if you do.

"Remove the camera as far away from the subject as possible."

The school of photography was one of the most interesting and valuable features of the convention. Instruction was given in all branches of the work as well as in operating.

Classes in printing and retouching met at 8 o'clock each morning, and for operatting at 3 o'clock each afternoon. Mr. Hetherington was assisted by several leading photographers of the convention.

The first afternoon after Mr. Hetherington had stood the fire of questions admirably and amiably for a full hour, Dr. G. G. Rockwood suggested a point in behalf of the audience which had not been covered in previous questions. At this Dr. Edward L. Wilson joined with Mr. Hetherington in a request that Dr. Rockwood answer the question himself, which he did, giving briefly the reasons why "a lens should never be used beyond its power" or *intended* scope. Dr. Rockwood ably illustrated the advantage of using a large lens instead of a small one—the larger (practically) the better as a means of avoiding the distortion of perspective in portraiture. He made an emphatic point of there being *a perspective* in portraiture, and illustrated it in various ways.

In response to a suggestion from the audience he discussed and criticised in the best spirit the want of concentration of effect in some of the otherwise admirable exhibits. He said that in one of the sections his attention was arrested by an elaborately finished and framed picture of a lamp-shade! Upon closer examination he discovered in the lower part of the picture and near the centre a human figure! Beyond and in the same collection was an equally startling picture of wall-paper decorations! Here, too, on closer scrutiny he discovered several figures!

"Now," said Dr. Rockwood, "the party who prepared this exhibit has shown wonderful invention, unusual chemical effects, and the most careful mechanical excellence; but he has in both cases made the figures entirely subordinate to the background, and absolutely reversed the order of things. Of course, he should have made the background and all other things introduced into his pictures *accessory* to the figures. Here was a marked instance of genius without knowledge. Natural intuition will never take the place of training and study, and however experienced we may be there are unexplored regions beyond. We are never too old to learn. When the great Michael Angelo had performed his life-work and made his name immortal he was found amid the ruins of Rome with pencil and tablet in hand. When asked why, in the sunset of his days, he was at work, he said, 'I still go to school to learn of the great master, Nature!' In the same spirit I, in common with you all, have come here to study and to learn, and I have learned much—no little from the mistakes of others, as in the instances I have quoted, of the lamp-shade and the wall-paper."

Mr. Rockwood then accentuated his teaching as to "concentration in art" by reference to the superb display of Pirie MacDonald, which illustrated the point in a superlative degree; in fact, he thought almost beyond the education and present desires of the public.

A question came from the audience concerning the use of head-rests. "This," said Dr. Rockwood, "cannot be disposed of by any arbitrary rule. Sometimes we must use them; at others they are impracticable. Let me tell you a story: A dramatic company came to me to be photographed in the principal tableaux and scenes of a play which I had studied and noted with much care. It had been my experience that a recital of the text with the accompanying action and an instantaneous shot would give the desired result. I had been very successful before with the

manager of the company, and in this play was especially desirous of surpassing myself. I met an obstacle in the person of the principal character in the play, who was a well-known teacher of elocution and acting. He demurred to my suggestions, and mechanically placed himself in the supposed action of the moment. After exposing the plate I persuaded him to try it again, reciting the text and 'suit the action to the word.' The lines were addressed to a son by a parent, and were: 'I am no father to a thief!' He threw himself into the full spirit of the text and action, producing a result that excited the warm applause of the company and gave me a superb picture. Suppose I had attempted a head-rest?" (Great applause.)

Dr. Rockwood's imitation of the speech and gestures of his actor-patron afforded a magnificent climax to his effective address, and all were much enjoyed by his admiring audience. He afforded them a lesson they will find helpful under similar circumstances and not soon forget.

We have tried to describe a few only of the scenes we witnessed at this school. We lament that there is not a permanent institution of this character. Yet, of course, such inspired scenes could not be "professored" to order.

Many questions were asked; willing answers always followed. To those who took part, to those who generously gave instruction, and to the American Aristotype Company much credit is due.

SIXTEENTH ANNUAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, HELD AT CELORON, CHAUTAUQUA LAKE, JULY, 1896.

As only one session per day was held, the 1896 Convention of the Photographers' Association of America was not as interesting as usual. Evidently the presiding officer had not planned for more than what came to his hands, except perhaps to help arrange and publish a programme, which was distributed and not followed. Indeed, there seemed to be rather more planning done to keep the visiting photographers away from the sessions and divert them than to bring them there.

The real business began Tuesday at 11 A.M., when President H. P. Bellsmith called the 350 to 400 photographers present to order.

An address of welcome was delivered by Porter Sheldon, Esq., President of the American Aristotype Co.

The President read his annual address, as follows:

LADIES AND GENTLEMEN OF THE CONVENTION: In addressing you briefly this morning, I will not attempt any discussion of technical matters or theories in reference to photography, but will confine my remarks to suggestions for the advancement and improvement of our Association and members of the craft generally.

You are congratulated upon the increased interest and greater usefulness of our organization. There is nothing like union and association to improve and advance us. The social features are of great advantage, but more than all, and above all, is the good that comes from conference among ourselves.

You rub off the rough edges, you forget the sharp competition, old sores are healed, new and lasting friendships are formed, and you learn only of what good you can accomplish.

While enjoying to the fullest extent the social features do not neglect the great and lasting good to be derived from the careful, intelligent, and thoughtful study of the

photographic work entered for the prize competition.

I congratulate you upon the higher standing, both socially and as business men, which, as a body, photographers have attained; still there is room for improvement. In this connection there is one practice that is still maintained in the great majority of studios. I refer to the rather degrading custom of doing business on Sunday. We have all been more or less guilty, and I think this has interfered more than any one thing with our taking as a profession a higher standing in the community. I would suggest that this matter be given to a committee to report on some feasible way of promoting the proper observance of the Sabbath.

I feel it my duty to call to your attention a matter which is yearly becoming more embarrassing to the officers of this Association, and on which I deem some action should be taken, to insure the success and equity of future conventions.

It must be apparent to you that convention halls, medals and prize trophies, entertainment, and educational attractions and provisions, with the vast amount of details, correspondence, and literature attendant, cost a considerable sum of money annually that membership fees of photographers will not begin to cover.

This expense is provided for by selling space to manufacturers and dealers for exhibition and educational privileges, and from subscriptions of dealers and manufacturers whose business is dependent upon their trade with photographers.

W. J. Dunihue, Photographer. Jamestown, N. Y.

THE AUDITORIUM.

It would seem that manufacturers and dealers, basing their business upon their trade with photographers and gaining opportunity of meeting their trade at conventions, would be willing to do their *pro rata* share in defraying the expenses of these meetings, and it would also seem a matter of equity that they should do so.

Unfortunately these are not the facts, and I am pained to state that the maintenance of our conventions has been dependent upon the generosity of a few

manufacturers and dealers who have been taxed way beyond an equitable basis, while the majority have been admitted to the full enjoyment of the trade advantages of the convention without contributing a cent to the expense, save the admission fee at the door. This to me is not only manifestly unfair, but cannot go on with any safety to our organization, and I regard it that the time is not far distant when our generous and liberal friends will finally tire of this unjust tax upon them which is not begrudged to the advantage of the photographer but to the equal advantage of their competitors who feast at their expense. I therefore place this matter before you in its naked truth for your consideration, and would suggest that some legislation be enacted to place this matter on an equitable basis, whereby a few of the manufacturers and dealers will not be called upon to defray the per capita tax of the many who enjoy equal privileges with them, and where, if a dealer or manufacturer be permitted on the floor of our convention halls, he will be obliged to defray his fair share of the privileges he enjoys.

We have here with us to-day concerns who have spent hundreds of dollars for the privileges we are enjoying, while others without the expenditure of a cent aside from their admission fee take equal prominence with them from a social and trade point of view. It is neither just nor equitable, and, like all things based upon similar standards, must sooner or later fail.

In somewhat lively contrast to this is the action of the local entertainment committee of the Detroit Convention of last year, who, having a surplus of some $242, most generously donated that amount to this Association. I consider this very handsome, and it should not be allowed to pass unnoticed.

The matter of changing our constitution and by-laws has been agitated to some considerable extent since our last meeting, and, that the time of the convention be not taken up by too lengthy discussion bearing upon this subject to the exclusion of the regular order of business, I would suggest that a committee be appointed to take this matter under consideration, and that all questions under this head be referred to them.

One of the most fruitful causes for dissension and criticism in the past has been in the matter of the appointment and personnel of the judges of the exhibits competing for the prizes offered by this Association. The system inaugurated by the Executive Committee, of territorial divisions, has offered a solution of our former difficulty whereby the very best talent in the profession is available. Under our present plan an exhibitor is eligible for the position of judge in any division, excepting the one he is himself competing in.

In conclusion permit me to commend the wisdom of your choice in selecting fair Chautauqua for the place of holding our convention, aside from the convenient and magnificent auditorium and art hall. The opportunity afforded for a delightful vacation is unsurpassed and should have our serious consideration as a place of future conventions. The manufacturers and dealers in photographic materials have most generously provided for your entertainment, no efforts having been spared to make this the most pleasant, profitable, and successful convention in the history of our organization.

After some routine business the veteran Jex Bardwell recited his paper substantially as given on page 370. He was followed by Edward L. Wilson, who made an appeal in favor of purchasing a home for Mr. Bardwell in Detroit.

Mr. Abraham Bogardus was next introduced, and made a short, earnest address in behalf of photography as an art.

Mr. Charles Hetherington invited all to attend the "School of Photography," and Messrs. Bassett, MacDonald, Bogardus, Rockwood, and Steckel were appointed a Committee on Constitution. Adjourned.

WEDNESDAY, 8 A.M.

Mr. A. L. Bowersox, of Dayton, Ohio, reported for the Committee on the "Progress of Photography," as follows:

I come before this intelligent audience this morning with a very brief report of the "Progress of Photography." While progress is evident on every hand, we are left to our own sense of good taste and judgment. To absorb the progress in the past year one needs only to pass down the Exhibition Hall and drink in and feast upon the beauties there displayed in order to fully realize the progress made since we last in convention assembled. To render an account of the present state of photography presents no great difficulties whatever, the facts to its credit being recorded everywhere, so that we need only draw from recent sources, the very ancient facts being, so to speak, contemporaneous in order to trace the progress of photography to the present hour. Passing in review all its methods, all its countless applications, we cannot help but feel that we are witnesses of a scientific progress so continuous and wonderful that we dare not shut our eyes to it, if we would keep pace with the progress already made. There is no end of room on the pinnacle of fame, and we can only gain that coveted place step by step, round by round; but let us not be like the tyrant Dionysius, after attaining that high degree, despise the base degrees by which we ascended, but let us adopt the motto, "Look up, and not down; look forward, and not back, and lend a hand." By helping those less fortunate than we are, we are really helping ourselves to retain at least our position, otherwise we should find ourselves retrograding instead of advancing.

A look around the convention hall gives us very little material for our report; there has been very little done in the manufacturing of new instruments. It seems they have attained to such a perfect state that improvement is scarcely possible. The plate men report nothing new, only we observe that the high standard has been steadily maintained, and we have our choice between a half-dozen brands to satisfy our various tastes. The M. A. Seed Dry-Plate Company, however, have added a new article to their list of manufactured products. It is a printing-out celluloid film, which, it is claimed, very closely resembles carbon in its effects, giving several tones, being coated on medium and heavy celluloid. This company also make mention of their (one powder) developer, which is especially valuable for the view artist and amateur. Another developer which has found favor with the professional and amateur alike is the metacarbol put on the market by the E. & H. T. Anthony & Company. This developer gives exceptionally fine results. The various matt-surface printing-out papers are so perfect that improvement seems impossible.

Carbon probably gives the finest deposit, but, like "Topsy," it never had a "mudder," and consequently had been little introduced to the rising young men of the profession.

With platinum, beautiful results can be obtained, and we are pleased to note that the manufacturers, Messrs. Willis & Clements, have succeeded in the past year in securing a much finer deposit than heretofore, giving still greater value to this already celebrated paper. The greatest obstacle to the more extensive use of this kind of paper is the obligation of the photographer using it to purchase the developer and chemicals from the manu-

facturers, not knowing what they are composed of.

The paper that has found favor among the greatest number of photographers is the Aristo-platino. The seeming simplicity with which this paper is worked is the cause of the increased demand for it. The final results are similar to carbon and more easily obtained. Its keeping qualities are greatly improved, and the finished results are apparent to all. We believe there is quite a new and unexplored field of progress for photographic portraiture if its practitioners will but elevate their standard and give it the intelligent study it really deserves. It is not sufficient to imitate the painter, but to ascertain the principles of artistic portraiture.

The Taber bas-relief photographs are a new departure in photography, and from recent reports a number of the leading photographers are reaping a rich harvest who have introduced them in their studios. The Weaff negative vignetter, a new invention, embraces the perfect development of thorough and careful experimentation by the inventor, until finally a vignette mechanically perfect and wonderfully successful in its results has been obtained. This same gentleman has also invented a new background and carrier, which has many useful points, and seems to be a most needful and time-saving accessory to any well-appointed gallery.

Leigh's combination photograph printing frame and print washer should also be mentioned here as worthy inventions, and show additional progress in their several lines.

The photographic lens-maker is not behind in improvements. The Gundlach Optical Company have placed a new lens on the market, called the Turner-Reisch anastigmat. It is claimed for this new lens that the stigmatic errors are entirely corrected with the full aperture, so that for the given size of plate they need not be diaphragmed, and the image will be as sharp on the edges as in the centre. The field is absolutely flat. The combinations are symmetrical, and either combination used alone gives a beautiful image.

The Röntgen discovery has seemingly thrown the scientific world in a fever heat. Among the first experimenters to see the possibilities of the cathode or x-rays was the veteran dry-plate manufacturer, Mr. Carbutt, who saw a new field for usefulness of the photographic plate; consequently he set himself to work and produced his x-ray plate, which is now on the market, the first of its kind.

There may be other lines of progress which have escaped our attention. This report may not be as complete as it should be, but the very short time in which to secure the necessary information prevented an extended report.

The one thing most needful to progress in the coming year is to try to realize our extreme art-poverty, and we shall feel the need of instruction in this line more real and urgent. This ought to be an impetus to higher and nobler ambitions.

By the President: Mr. Edward L. Wilson, editor of WILSON'S PHOTOGRAPHIC MAGAZINE, will now read the first of a series of papers prepared by the invitation of the officers. Much disorder prevailed, but finally order was secured. (Mr. Wilson's paper appears on page 367.) After Mr. Wilson had concluded, President Bellsmith, alluding to Mr. Wilson's appeal yesterday, spoke in behalf of the project of raising a fund to provide a home for Jex Bardwell. On motion of A. L. Bowersox, G. Cramer, of St. Louis; O. C. Allen,. of Detroit; George Steckel, of Los Angeles; J. Edward Rösch, of St. Louis; and Edward L. Wilson, of New York, were appointed a committee to make the necessary arrangements for providing a home for Mr. and Mrs. Jex

Bardwell at an expense of about $2500, to be raised by subscription.

Messrs. George B. Sperry, George G. Rockwood, and M. R. Hemperley all addressed the audience, and their papers will appear herein.

THURSDAY, 11 A.M.

The report of the Treasurer, C. M. Hayes, was read. It declared a balance of $900 in hand. After the appointment of a nominating committee the prepared papers and addresses were taken up again. Messrs. Ben Larrimer, C. O. Towles, E. B. Core, J. Edward Rösch, and F. Dundas Todd were listened to with much interest.

FRIDAY.

Two sessions were held this day, the last of the convention in the afternoon. The morning was devoted largely to the election, with the following result: President, C. M. Hayes, Detroit; First Vice-President, J. Will. Kelmer, Hazleton, Pennsylvania; Second Vice-President, W. G. Thuss, Tennessee; Secretary, A. L. Bowersox, Dayton, Ohio; Treasurer, George Varney, Chicago, Illinois.

As the meeting place for 1897, Celoron was chosen.

Mr. Leo D. Weil, of Chicago, whose exhibit of home portraiture attracted much comment, read a paper during the morning session advocating his method of "Non-Studio-Photography."*

On motion of Mr. Bassett, $1000 was voted for prizes of the coming year.

Mr. G. Cramer made an appeal for the Jex Bardwell "Home."

The entire proceedings of the Convention were ordered to be printed.

The presentation of a set of solid silver to Mr. Charles S. Abbott, the voting of extra medals, and the usual resolutions of thanks to the chief helpers were followed by the last sound of the gavel of the late President. Adjourned,

* This address, illustrated, will appear in our next issue.—ED. W. P. M.

SOME THINKING ABOUT THOUGHT.

BY EDWARD L. WILSON, PH. D.
EDITOR OF WILSON'S PHOTOGRAPHIC MAGAZINE.

Read by the author at the Convention of the P. A. of A., at Celoron, Wednesday A.M., June, 24, 1896.

THE object of this essay is to induce my fellow-photographers to apply more thought in the practice of their art.

One of the most enjoyable departments of my labor arises from the constant receipt of examples of their work from my subscribers. From these I gather courage when they prove to me the wondrous strides made by some of our craftsmen; but often I am depressed when I observe how much better results could have been secured if only a little more thought had been given to details. A splendid conception is often ruined by the thoughtless neglect of a wrongful line, a mischievous spot of light, or an inharmonious accessory.

A plea then for more careful thought, with a few words as to the power of thought in the practice of photography.

The scientists aver that "the human body is a chemical laboratory. The mind is a conscious or unconscious chemist, and exercises direct control in all the multiform physical processes." Is it not true that whatever we produce is the outcome of our mental activity? Is it not

true that our picture is good or bad according to the measure of proper thought we apply to its production?

What the metaphysician tells us is confirmed by the experiments of the delvers in science in our colleges and universities. In all of our larger educational institutions psychology has found a well-established place. Our Government has instituted at the Smithsonian Institution a department for study and experiment in psycho-physics—"the newest of the sciences," in charge of Prof. Elmer Gates.

I say, that in the history of the world there never was so much interest shown in the study of the dynamics of the mind as now.

It is high time, then, that photography awaken out of sleep and take its place among the earnest thinking ones.

At the institution named it has been discovered that our feelings create chemical products in our bodies which are wholesome or injurious according to the thoughts which start them, thus proving what the poet long ago claimed, that

"Thought is deeper than all speech."

and that the claims of mental science as to the power of thought for the upbuilding or pulling down of the bodily energies may be positively confirmed by chemical tests and measurements.

If these things be true, then the productions of the photographer must be unworthy or otherwise according to his thought. Is it not also true that it will "pay" to think seriously of what we do, drawing, as we think, from the fountains of art knowledge left as their legacies to us by the masters who have passed away.

When wrestling under the red-light of the dark-room we learn (although we do not always regard) the fact that the laws of chemistry are absolutely exact and unchanging. To secure a certain result we must conform to the necessary proportion of the ingredients and resort to test and measurement. Every possible condition that may cause the slightest failure in the result must be observed and managed with the best thought in our power.

We do not give the same attention to our labor under the skylight however, although the law of chemical combination in mind is as exact and unvarying there as it is in the physical department of our labor. To this truth we must be trained if we would make our creations worthy of us.

As thoughts—selfish, sensual, jealous, or avaricious—in human character produce mould, acidity, fermentation, scum, or dregs (proven by the very sweat of the brow, says the investigator), so disregard of the right principles in art causes results which are unworthy to be classed with "good work."

O! my friends, around us is an endless garden of beautiful forms, waiting for us to free them from their inharmonious neighbors by the use of the means abundant at our hand, backed by the power of thought, and employed with a definite aim and purpose.

"Thought is the human motor," yet it is as obstreperous as an untamed steed. We must educate it, train it according to law, if we would hold it obedient to our best service. Thought is startled aright, and grows from within quickly, by the best ideals.

How well this fine sentiment is declared by Mr. Browning—

"But friends,
Truth is within ourselves; it takes no rise
From outward things, whate'er you may believe.
There is an inmost centre in us all,
Where truth abides in fulness; and around,
Wall upon wall, the gross flesh hems it in,
This perfect, clear perception—which is truth."

Note an illustration or two of the power, the growth, and the result of thought:

The day I write our whole city is shocked by the assassination of one of our best-known bankers; it was at mid-day, in his

S. L. Stein. *Milwaukee, Wis.*

CELORON PRIZE STUDIES

own office, almost within sight of my office window.

The assassin was out of work; he thought that starvation for him and his family stared him in the face. On and on went this thing—this thought—vibrating, intensely, constantly, until it grew beyond his control, and was shaped into a demand upon a stranger for money. It ended in a hideous tragedy.

Again: Enter if you can, in imagination, the vast galleries of the Vatican, where the acres of paintings by the old masters overwhelm the observer. Why are you so touched? It is because, you must agree, that only those possessed of thoughts which were in the greatest degree spiritual could have created such divine expressions, such grace of attitude, and such massing of color. All this resulted from the natural outcome of the spiritual atmosphere of love, joy, and harmony in which the consciousness of these masters made their abode. They created the world in which they lived, and the base and false had no place in it.

Is it not true, then, that "thoughts are things," and, if so, may we not produce beautiful works by proper thinking?

What may the photographic artist not accomplish in moulding his work if he but think properly of his possibilities—if he but *train* his thoughts aright?

Let your thoughts fly upon the wings of intensity and continuity. There are no limitations.

"Life is short, but art is long."

Freedom, originality, and progress are sure to follow your careful thought-training.

You are a battery of positive forces. You cannot compute the effect of a pebble thrown into the sea. My tiny dog, "Sparkle," can set a great iron bridge to vibrating by once trotting across it. Get a start! Think! "Thought is the parent of the deed," said Carlyle. "Thought is valuable in proportion as it is generative," Bulwer assured us.

Let the good thoughts work. "Thoughts shut up, want air and spoil, like bales unopened to the sun." (Young.)

"How am I to begin in all this good work?" asks the untrained one.

Again we draw a hint from the scientist: "Devote an hour each day to proper thinking upon the subject. Make this a regular exercise, like swinging dumb-bells. Gradually increase the time . . . per diem. At the end of a month a surprising change will be found. The alteration will be apparent in both work and results. And the result will be an increase and quickening of the power of original thinking. In other words, inventions can be made to order and discovery can be promoted. Genius has been an accident hitherto; in the future it will be created systematically."

Here is an exposition of physical science as given by one of its most eminent experimentalists. Why may we not apply its suggestions to our profession? Some time every day systematically devoted to the thoughtful reading and study of art principles, and the examination of pictures, and some time every year devoted to the production of one picture which shall be the revelation of the year's reading and thought, will be clear gain, and result in better productions ever after. You will grow and mature as you go on; you will feel new pleasure in your work, and you will win new fame from your patrons.

"O, the joy
Of young ideas painted on the mind,
In the warm, glowing colors fancy spreads
On objects not yet known, when all is new,
And all is lovely." (Hannah More.)

Give your best thought to your work, then, good fellow-craft. Remember, too, the dignity of the art whose representatives you are, and make its good name also a subject for earnest thought—for your very best.

A GREETING.

BY JEX BARDWELL,
DETROIT.

MR. PRESIDENT AND MEMBERS OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA: I am glad to be with you and wish you all a pleasant and profitable convention (in technical knowledge and advancement). I want to make a few suggestions:

I think every photographer should keep a notebook in which should be recorded all matters that may come under his notice, especially in his own practice. If any mishaps or failures in any part of his work occur, they should be particularly recorded. Such records would be found quite valuable at one time or another.

I had made up my mind to inflict on you a short paper relating to some observations that had fallen under my notice within the last few years, but on consideration I felt that I would not take up time that might be to all more valuable.

Only to one little matter will I allow myself to call your attention, and that is, when you see street merchants having in their small stock of goods stereoscopes and stereoscopic slides I think it pretty strong evidence that stereoscopic goods are still in demand. It calls for considerable judgment and good taste to properly compose and make a good stereoscopic picture, be it a group, an interior, or a landscape. These are not by any means as easily made as work under the skylight.

Again, take notice of the amount of capital employed in the optical lantern trade. You have only to look over some catalogues appertaining to that trade to be convinced of its magnitude. See the expensive instruments made by Beseler, Colt, Thompson, Queen, McIntosh, and others. York, of London, and Wilson, of Scotland, send men all over the world taking negatives for slides. West, of Portsea, came to New York during the yacht race for that purpose alone. Few men dare give a lecture nowadays, no matter what the subject, without it being illustrated, and in some instances have lantern slides made for their especial use. Notice the number of lantern clubs all over the country.

Might it not be well if our national association recognize that stereoscopic and lantern slides are *photographic factors worthy to be encouraged?*

Another little suggestion has occurred to me. I will state it, inasmuch as I have the privilege of speaking to you, and inasmuch as there has been a committee appointed to alter some of the by-laws: I would like to see embodied with the prizes that are to be given, awards for four new classes. I do it for the benefit of the employés. There are men amongst us who

do the work, men who do the retouching, men who do the printing; and they are entitled to a certain amount of benefit from the instruction they receive here. Make a separate offer of prizes, either one, or two, or three, in these different classes, for them. I would suggest, for instance, that there be a class for retouching, and that the prize shall be given for retouching alone, independent of any other consideration of the subject. And printers might submit a certain amount of work, showing their proficiency in printing, Printing has got to be an art. You will see some pictures here in the corridors to-day that no ordinary printer can execute. The man who does those pictures is entitled to a certain amount of credit that he does not get when prizes go to the galleries. It is all right that the galleries should receive all the credit that is due to them, but their credit comes from the men who do the work. I am really and honestly a democrat, and I carry my democratic principles out so far as to have those men who do the work get the credit. It is a suggestion that I throw out to the committee, and I hope they may take the same into consideration.

To conclude, of what account is the photographer of to-day unless he has made experiments with the mysterious x-rays.

The skeleton hand has become fossilized, so I thought I would try my success on a thought photograph. I procured some of Carbutt's new x-ray plates, got a plate in position, laid my head on it—thought—turned on the current. On developing the plate I obtained a clean sharp negative of the following sentiment:

Our 1896 Convention. May it be an improvement and a great advance; may it be a success, and may its members take advantage of this opportunity.

ADDRESS AT THE CELORON CONVENTION ON "ART EDUCATION."

BY GEORGE B. SPERRY.

MR. PRESIDENT, LADIES AND GENTLEMEN: I was told to select my own subject for this address, but to talk on points which we photographers are most deficient in. I know of no greater need than the need of better art education. Important and widespread as this need is, I cannot approach the subject without a feeling that I ought to apologize for it. We have been laughed at for calling ourselves artists, when, as alleged, we know nothing of the rules of art. We have been told to build our pictures upon pyramidal lines, to balance our diagonal lines, to be careful where we placed our horizontal lines, and to be sparing of our upright lines. Are we to be blamed if we conclude that art is to be measured with a foot-rule?

We have seen photographs praised for their artistic merit, which to us seems flat, stale, and unprofitable. We have had our own efforts to be artistic frowned upon by our patrons, and these efforts have seemingly produced so little that was of lasting benefit that some of us have grown a little weary of the work and are wondering if the results are worth the efforts. When we reach the conclusion we are ready for the next step. Important as are rules of perspective and composition, they are but tools. Art could not exist by them alone. *Art is feeling.* As Longfellow so beautifully puts it: "Art is the child of nature. Yes, her darling child in whom we trace the features of the mother's face. Her aspect and her attitude—all her magnificent loveliness chastened and softened and subdued into a more perfect grace, and with a human sense imbued. He is the greatest artist then, whether of soul or pen,

who follows nature. Never yet man as artist or artisan, pursuing his own fantasies, could touch the human heart or please or satisfy our nobler needs, save he who follows willingly in nature's footsteps, light and fleet, and follows fearless where she leads."

What is man that he should have these aspirations?

Again the poet speaks:

"What are we, whence came we?
Are we but a state of shifting matter built into a frame
Which grows and changes, yet remains the same or seems to?
Does our thought, our love, our hate,
Depend upon secretions? And does Fate
Stand at the helm and steer an unmanned boat
Midst rocks of chance? Or is there that within
Which is not matter? Calling from the dark
I am, I will, I suffer, and I sin.
I know of nothing save that only I feel all things within myself.

If then I die,
Nature itself may pass. I cease to be
And all is blotted out which lives in me.
I feel I cannot die. For life I cry."

Here art is born. It is this striving for something better that begets the art feeling. No man can say I have no such feeling. Whether it be a spark or a flame depends upon ourselves. We are the creatures of environment only so far as we choose our environment.

In criticising a picture an artist will say "I feel these lights are too broad," or, "I cannot feel his interpretation." Try your next composition with more regard to the feeling and less thought of the lines. You will soon find that the lines are apparently taking care of themselves. No master has ever lived who has not at some time broken the rules of perspective or composition. But art still stands impregnable.

Our most helpful teachers should be the illustrations in our photographic journals; but, alas! they are not always helpers. In a recent number of one of them was a reproduction from a photograph in which the subject, a charming young lady, was posed with the right arm and the left leg advanced and with the left arm and the right leg receding. You all know that is wrong. One of the first things a would-be orator is taught is that his right foot must follow the gestures of his right hand, and that his left foot must follow the gestures of his left hand. It is a fundamental rule of all systems of physical culture that the right arm and the right leg and the left arm and left leg must act in unison. In no other way can grace, strength, or stability be expressed. These illustrations are supposed to be patterns for aspiring subscribers. Are we getting our dues when they give us false ideas?

You are all familiar with the fact that when editorial mention is made of these pictures the most fulsome praise is sometimes given, be the composition good, bad, or indifferent.

Now, gentlemen of the photographic press, we do not like this way of doing things. We beg leave to call your attention to the fact that these publications are issued for our benefit and instruction. When you publish a picture which contains a gross violation of art principles without calling attention to the fact, you are defrauding your subscribers. When you give flattering notice to composition that has glaring errors, you are misleading those who have placed their confidence in you.

We are struggling to get out of the mire. You above all others have urged to this step. What are you doing to help us? Pointing the way with one hand, and pushing us back with the other. We are getting a start. We must have your help. You may tell us that you cannot get pictures for the purpose of condemning them. We can only say that we look to you for ideals, and we do not want you to give us false ones.

Now, gentlemen of the photographic press, I want to apologize for all the hard

things I have said. After all, you are our best friends. You have upheld our banner when it would otherwise have trailed in the dust. You have been the kind and patient mother, ever ready with a word of encouragement, and with a pitying eye for our faults and our follies. Now that we have grown to realize the need of your help, let us together place photography where she belongs, as a potent factor in the education and the civilization of the world.

GENERALITIES.

BY M. R. HEMPERLEY.

MR. PRESIDENT, LADIES AND GENTLEMEN: When our worthy and genial President asked me to read a paper before this convention and to name my subject, I told him that about every subject that I could think of had been so ably illustrated by the great lights of the profession that there was (it seemed to me) hardly any field left for the tyro to enter. However, I may say a few things in general, and therefore had better call my subject "Generalities." Then it will possess one advantage for me, that say what I may and however badly, I cannot be accused of not sticking to my text. When I look around and behold the works of the representative photographers of America, as gathered together at this time in one of America's choicest garden-spots, I surely must think that photography in general, and the art side of it in particular, are improving. I doubt if ever before has there been such a grand collection of artistic productions of the camera and the brain brought under one roof at one time. And we may well ask what does it mean? The reply must be that it means, first, that there is disseminated throughout this broad land plenty of art culture, men and women who are surely able to comprehend and formulate in their minds, and then portray with the camera, real art conceptions; second, that the energy, tact, and business ability, as displayed by our tireless executive officers, are not wanting to bring it from the remotest parts of this great country to Chautauqua for us all to feast our eyes and feelings upon. Who among us can go home from this greatest of all great conventions and not feel bettered for the coming? There will be some, of course, who may feel a little disappointed in not winning prizes. But their education is by this time so far advanced that they will not allow themselves to shirk another attempt, and after a little time for reflection will find themselves as energetic as ever for the next trial, and they will (through the influence of this convention) work by day and dream by night for their future success. I had, a little time ago, an idea to depict for the genre class, "The Photographer's Dream." I thought how I would have the tired operator represented in his midnight slumbers, with visions floating above him of his grand success at Chautauqua. The whole atmosphere filled with flying cupids, bearing burdens of gold medals, grand prizes, laurel wreaths, congratulations, etc.; and then I thought of a companion piece to represent his awakening, and discovering in the blackness of the night the escape of grinning imps and hobgoblins galore, with possibly *Puck's* cupid flashing in his face "What fools these mortals be." So it goes. We can't all win, but we can all try, and you remember that good old proverb, "Sticking everlastingly at it brings success."

Only a short time ago I met on the streets of Philadelphia an old photographer, a veteran in the business, one who

has had in the past a splendid reputation, but who has allowed himself to fall back in the race. He greeted me with, "Well, Hemperley, I see you are in it, full of convention business. Now I would like you to tell me what good there is in these conventions? Don't they just get together for a grand racket? What do you learn there anyway? I don't believe they are any good." Well, you can imagine I was stunned to know how to reply to such dense ignorance, and this from a man who, a few years ago, was considered a very bright photographer. Finally I said to him, "Do you think my work is any better than it was a year or two ago?" He said, "Yes, everybody says you keep getting better all the time." I asked again, "Do you believe my business is any better than it was two years ago?" He replied, "I know it is; how could it help but be when your work is improving all the time?" "Now," I said, "I will answer your questions with your answers to mine. What you admit to be true is what the conventions have done for me and what they are doing for all who attend. They arouse and stimulate within us all a desire to do better work, and each successive meeting together is another dose of the same medicine." Now that man is going downhill, simply because he won't grasp an opportunity to allow others to help pull him up. And then, too, look at the associations we form at the conventions. Here we meet in fraternal brotherhood, we shake the hands of men of brains, mingle and become a fellow with people whom to know is an honor and with whom to associate is to broaden our intellect and cultivate within us higher aspirations in the finer art fields which lie beyond us. How well do I remember back twenty years. Then in my early days of photography, when I saw displayed at the Centennial Exposition in Philadelphia, by our good old veteran friend, Landy, of Cincinnati, a portrayal of Shakespeare's "Seven Ages of Man," how I stood before those pictures and gazed for hours, thrilled with delight and wonder at the grandeur of their conception, and the, at that time, seeming impossibility of execution. How I then and there determined some day to do something as well. My youthful mind may have been so strongly impressed as to become prejudiced, but I don't think I have ever seen those pictures excelled. Of course I may never attain to such a height of art, but the determination still exists, formed twenty years ago. So it must be with other young photographers who see at these conventions the works of our great masters of to-day. Their young minds become imbued with these grand ideas in our art, and a resolution takes place within them to go forward in their work to greater achievements; and thus these conventions school the coming practitioners, and are in reality the corner-stone of the future great structure of photography, the foundations of which were so nobly laid by the immortal Daguerre. I say all honor to the conventions. Why, they have even stirred up us slow old Quakers, so that we have to-day in the old Keystone State a very healthy and prosperous Association; and I anticipate that at our convention in Harrisburg next winter we will have an exhibition of work that will compare favorably with the best. We will invite you all to join us. Another thing that must be traced to the influence of these meetings is the grand idea of formulating plans for the organizing of an academy of photography. Only think of the possibilities of such a school! I can picture in my mind some of the grand results already. How everyone could go there and take a regular course in photography, the same as can be done in medicine, law, or theology, and how such general and thorough teaching would wield an all-powerful influence in the elevation of the art and all who practise it.

With the founding of such a school the day would not be far distant when all the trade tricks and schemes and tickets would be a dead letter, such would be the dignity of the art. Only a little comparison will make us see ourselves as others see us. What would we think of a physician, for instance, issuing club tickets or mailing cards by the thousands, giving about two-thirds off the regular price to students of all colleges and schools? This we know is practised largely in our business. That is why we need an academy of photography in this country, to educate us all up to a higher standard of appreciation of the noble art of which we yet know so little.

God speed the cause, and to those bright men who have conceived this grand idea I heartily wish success.

SIXTH ANNUAL CONVENTION OF THE OHIO ASSOCIATION, COLUMBUS, OHIO, JULY 14TH, 15TH, AND 16TH.

THE report of the Ohio Convention reaches us too late to permit of its full insertion in this issue, but our next number will contain a further account of the meetings. The Convention was attended by most of the prominent photographers of the State, and socially and in a business way it was a complete success. The chief feature of interest was the Salon, which included not only a fine collection of photographs by Ohio professionals, but also many beautiful examples of artistic photography by the leading amateurs of the United States. A display of radiographs by Prof. W. A. Goodspeed, shown by Mr. John Carbutt, attracted special attention. The salon was open to the public on the second day of the Convention.

Addresses were given by G. Cramer, M. A. Seed, Chas. Hetherington, J. M. Appleton, and others. The opening address by President L. C. Overpeck was listened to with great interest, and dealt with the artistic and commercial prospects of photography in Ohio. Two practical talks on Art by W. O. Beck, an artist from Cincinnati, formed a noteworthy feature of the gathering, and excited much enthusiasm.

Mr. George B. Sperry, Toledo, Ohio, was elected president for the ensuing year, and Columbus was chosen as the place of meeting for 1897. The prize-list will appear with the report in our September number. The special prize was given to Pirie MacDonald, of Albany, N. Y., and an honorary medal to George Steckel, of Los Angeles, Cal. The balance of the awards went to Ohio workers.

After the adjournment of the Convention a banquet was given at Olentangy Park, at which 165 people sat down. It was a most enjoyable meeting, and culminated in the presentation to retiring President Overpeck of a handsome bronze statue.

A photographic tourist of an economical turn of mind, objecting to the high price of films as compared with bromide paper, decided to have his film roll-holder filled with a continuous band of the latter in place of the former. He accordingly ordered twelve half-plate spools filled with an extra rapid brand of bromide paper, each spool containing material for twenty-four exposures. He reports that the experiment was completely successful. Of course, the paper proved slow, when compared with the rapid films regularly used, but sufficiently rapid for all practical purposes. The grain of the paper does not interfere materially with the sharpness of the print, especially if the latter is printed on a matt-surface paper.

A NEW STANDARD LENS.

THE experience of many years with photographic lenses has led photographers to look for an ideal or standard objective which will give, *First:* A perfectly flat field; *second*, unlimited depth of focus; *third*, which possesses perfect freedom from astigmatism or aberration of any kind; *fourth*, extreme rapidity; and, *fifth*, a generous width of angle. As far as we are aware these qualities have never yet been comprised in any single objective introduced, but we learn from Messrs. Benj. French & Co., of Boston, the American agents for Messrs. Voigtländer & Son, that these ideal requirements are realized in the new Collinear lens just perfected by this well-known optical firm.

The construction of this instrument has been made possible by the peculiar qualities possessed of the new kinds of glass produced at the technical laboratory of Abbe & Schott, at Jena, Germany, with which new media the firm of Voigtländer & Son have made themselves thoroughly familiar, being thus enabled to realize a project contemplated for some time past, not hitherto attainable because of the limited powers possessed by ordinary optical glass.

Judging from the proofs submitted for our examination the Collinear lens seems to possess the above-named qualities in a high degree of perfection, and should, therefore, prove an extremely valuable instrument in short galleries for the making of groups, regardless of size. The claim is made that the instrument will successfully photograph, in from one to three seconds' exposure, a group within a few feet from the camera, and extending back to any depth, yielding a perfect result. Groups may thus be made with this lens in a few seconds' time, the use of the dreaded and cumbersome head-rest being rendered unnecessary. Flash-light groups on the stage, or large assemblies in public halls, dinner-parties, and the like, fall within the province of work natural to such a lens, and the new Collinear will doubtless prove a boon in the hands of photographers making a specialty of this class of work. That a lens possessing these desirable qualities should be found of general utility for out-of-door work is not to be wondered at, and we learn that the Collinear is winning great popularity among expert professionals and amateurs, who are using it successfully in all branches of photography. The results obtained exhibit superior definition, softness and delicacy, rarely equalled in any work we have yet seen. The lens is a symmetrical combination, and its construction permits of its use as a view lens—that is, either the front or back combination used singly will give excellent results in views of ordinary long-distance objects.

Another important feature of the Collinear lens is the fact that it is corrected for three colors. This feature, we are informed, renders it a most desirable instrument for color-photography and all kinds of photo-mechanical work. From this it will be evident that the Collinear has all the advantages of a universal lens, without conflicting with the other lenses made by the same firm, viz., the Euryscope lenses (Series II. to IX.), which latter fill their own spheres of usefulness, and are to be continued in their present form without alteration.

The iris diaphragms fitted to the Collinear lenses are graduated according to the uniform system first introduced by Dr. Stolze, and are as follows: *f*/6.3, *f*/9, *f*/12.5, *f*/18, *f*/25, *f*/36, *f*/50, *f*/71, the relative time of exposure required being about as follows: 4, 8, 16, 32, 64, 128, 256, 512.

Messrs. Voigtländer & Son have already completed Series 2 of the Collinear, having

Chas. W Hearn. *Boston.*

MADE WITH VOIGTLÄNDER & SON'S NEW COLLINEAR LENS, No. 6, SERIES II.

SIZE OF ORIGINAL NEGATIVE, 11 X 14.

a working aperture of *f*/6.3. Ten sizes are comprised in this series. No. 10 has a diameter of 3½ inches, an equivalent focal length of 23 inches, and is capable of making a 16 x 20 plate with a large stop, and, with the smallest stop, a plate of over 30 inches square.

We present a fine group taken with a lens of this series from a negative by Mr. Charles W. Heam. It proves what we say.

We were quick to recognize the value of the Euryscope lens; we have, since its advent, kept the public informed of each successive improvement made by the celebrated firm of Voigtländer & Son, the oldest optical concern in the world.

Additional information regarding the Collinear lens may be obtained from the circulars prepared by Messrs. French & Co., and the lenses themselves can be procured of any regular dealer in photographic supplies, as well as from the importers themselves.

THE JEX BARDWELL HOME.

THIS project has now reached a more business-like shape, with more hope that the work will be carried on to success by the earnest committee appointed by the Celoron Convention. Jex Bardwell, with his usual generosity, delivered the first practical address to the working members. It was full of useful hints, and will be found on another page.

Mr. Bardwell was immediately followed by Mr. Edward L. Wilson, who made an address advocating the purchase of a home for Mr. Bardwell. Among other things, Mr. Wilson said:

"The object of my being here just at this present moment is to say a word in behalf of procuring a home for Jex Bardwell. This project has been mentioned frequently in other conventions, but somehow we do not get hold of the matter aright. An old story tells of an unhappy Irishman who tried to commit suicide by hanging. A friend of his went into the barn and saw him suspended with a rope around his waist sprawling at all fours in every direction. The friend looking up said: 'Pat, what the devil are you doing?' 'I'm hanging mesilf.' 'Well, why in thunder don't you tie the rope around your neck?' 'Oi did,' answered Pat, 'but I could not get my brith.' Here is the point. We have had the rope around the waist for a long time, and our object continues to fail. Let us get the rope in the right place and pull hard together; the Bardwell home will rise up

JEX BARDWELL, JR., AND SISTER, GRANDCHILDREN OF JEX BARDWELL.

before us. Mr. Bardwell, as you know, was the principal witness in a celebrated patent cause wherein all photographers were interested. It was for the prevention of the reissue of Cutting's patent for the use of bromides in photography. Had this patent been renewed, millions of dollars would be required from photographers. Mr. Bardwell is now an old man. Fifty years ago week before last, I think it was, he was married. His bride is still living, and they have no home. Let us get the rope about the neck and all help pull. I think one reason that it has not been accomplished is because of ignorance as to what has been done for it. We ought not to be ashamed to confess our ignorance and correct things. Dr. Samuel Johnson once made a mistake—we all do that sometimes—and a lady expressed astonishment that he should do so. When she accused him of it, and asked him why it was, he growled out in his usual way, 'Ignorance, madam, pure ignorance.' So it is ignorance of facts that is keeping us back. Let us do something. Let us have the sanction of the Association in behalf of Mr. Bardwell, and let us go to work and make the old protector happy all the rest of his life."

The time for adjournment having arrived, this matter was laid over until the Wednesday morning session, when President Bellsmith said:

"Yesterday, Mr. Wilson in speaking of our friend, Mr. Bardwell, suggested that a committee be appointed to consider the raising of a fund for a home for Mr. Bardwell. No action was taken, and I think this an opportune time for some action to be taken. What is your will?"

Moved by A. L. Bowersox that a committee of five be appointed to attend to this matter. Seconded.

By the President: It has been moved and seconded that a committee of five be appointed to consider the matter of raising a fund to procure a home for Jex Bardwell. Any remarks? Wouldn't it be a good plan to have that committee report tomorrow?

By Mr. Wilson: I hope I may be excused for saying so much on this subject, but this object has been very dear to my heart for a good many years, and I would like to see progress made. I do not propose that any great effort should be made right here and now, but I do want the sanction of the convention. I feel that I have the good-will and friendship of my fellow-workers. Let us in some way requite this old man who is with us. He has really done much for us. Even though all do not feel it and understand it, yet all get the benefits of his effort. He did a great work for us. He is old. We don't want to shut him up in a "Home," with his wife and little grandson, who is going to make a great photographer some day. We want to give him a home in Detroit. Now, $2500 will do it. I ask you to appoint a committee who would be glad to receive funds, if not now, some other time, from those who appreciate what he has done for us. I may state that yesterday an old friend met me, and said put me down for $100. That is the kind of thing we want, but we also want the five cents. Give as your hearts prompt you. I am willing to do much of the personal work, but I want to feel that you are friendly to the project. It will help win others. Give us your hand.

By the President: You have heard the motion that this committee of five be appointed for the purpose of procuring a fund for Jex Bardwell. All those in favor say aye; contrary, no. Carried.

The President appointed as the committee: G. Cramer, Orville C. Allen, George Steckel, J. Edward Rösch, and Edward L. Wilson.

Any of these gentlemen will be glad to receive subscriptions for the Bardwell

home until they organize, and they will make earnest effort to accomplish the end in view. Other magazines are requested by the committee to give place to this artcle.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XVII. BIG AND LITTLE BUSINESSES.

HAPPY is the man who can keep himself busy. Despite the conventions—one every month almost—we seem to have fallen upon evil times. A few men here and there are making money, but the majority everywhere are complaining that business never was as dull as it has been this summer. One gets into conversation with a (supposed to be) prosperous photographer, only to learn, when the confidential level is reached, that his one desire is to find "an enterprising young man with a *little* money" to buy his business, "fully equipped for every class of trade, from cabinet to 18 x 24." The proprietor of one stock-house informs us that he could not meet expenses save for the profits on his South American trade; another has "no men on the road, because they cannot secure sufficient orders to pay their way along;" while a third has moved into smaller quarters "on account of the rapid growth of his business," and depends chiefly upon his bargain-counter. Truly a discouraging outlook. What are we going to do about it?

Push in the right direction. There is no other remedy for hard times, nor need for any other, save that perseverance should be mixed with it. Those who are busy, too busy to complain, are those who are pushing most energetically and most wisely. They don't make much noise in their progress, but it is full of quiet energy, and business flows their way. They are doing good work—better work than they did last year; they let the public know about it in a persuasive way, and prices tend upward as the volume of business increases.

The unfavorable business conditions of the year, doubtless due in large measure to the disturbed state of affairs politically, which inevitably causes a tightening of the purse-strings all around, seems to most seriously affect the photographers in the smaller cities of from ten to forty thousand population. From a photographer of this class, located up in Maine, where "things are always quiet," comes a letter which touches a point worth discussing. He asks me to describe in the MAGAZINE just what it is in the works and methods of the "leaders" in our profession which brings them so much success, while the men in the small towns are forever living "from hand to mouth." This is a question frequently asked by those obliged by circumstances to work remote from the big cities and conventions where they would be apt to come in contact with the leaders.

I have known many photographers of this class, and my early training as a professional photographer was received among them. So that I know whereof I speak when I say that the thing which causes the disparity of results attained by the leaders and their less fortunate co-workers in restricted fields is simply enterprise. The workers in the smaller cities hear of the wonderful things done in the great cities; how Steffens, Strauss, Falk, Davis and Sanford, and others "make things hum" and get astonishing prices. And the idea becomes a settled conviction with them that there is something occult about it all; that it is the influence of the big city or the abundance of wealth and rapidity of life there which enable a man to do

successfully what they fail to do in their own locality. They forget that all the leaders had a small beginning; that Davis, for instance, was an amateur photographer a few years ago, and Sanford simply a country photographer. And it is not until they visit the studios of these leaders that they realize that, after all, it is push and indomitable perseverance which make possible the success which puts their names and work in everybody's mouth.

I have often wished, as I have gone about the studios of New York, that I could show the workers in the smaller towns by what stress of effort the leaders keep ahead of the procession, and how hardly their success is earned. The difference between the big and little business is then clearly seen to be simply a difference in energy and its application, and the man stagnating in the small business (if he has sense) says to himself that the same amount of energy, applied as wisely, would bring success in his own town.

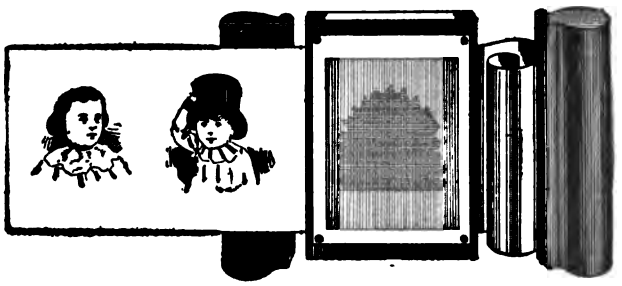
But unless a man sees it with his own eyes it is difficult to get him to realize this fact. He dreams of the elaborate equipment, the expert operators, and the never-failing stream of customers which make up the big city studios and their success; while all the time the equipment of the city studio is more often than not inferior to the country gallery, the expert operators myths, and success the result of a lot of hard work and thought.

Let me persuade those who are "waiting for the election to get over," or for "something to turn up," to turn things up for themselves, and to begin to do now what they propose to do when the elections are pecided. The first requisite for a growing business is good work—work that will draw big orders, that will stand a good price, that will bring new customers. Then it should be made known, brought before the people who are supposed to need it, put where they can see it and be attracted by it. This simply means advertising in every way that commends itself according to local conditions. Look to the place of business, make it attractive; have a special room devoted to display, and throw it open to the public; throw out feelers for business, and do not be afraid to seek it; put your energies into the getting of patronage, and so handle your trade that you get out of it all it should yield. Keep the duplicate order business always active by the aid of a reception-room assistant who knows how to work it for profit; see to the proper treatment of your patrons in the studio, that they receive all the care and courtesy you can command. Watch the finishing of the work, so that every picture leaving your hands shall be a business persuader. Introduce sufficient novelties to keep the public interested in what you do; the one-idea man will soon drop out of sight in a small community. Put your prices on such a basis that your patrons pay a reasonable profit upon all they get, so that those who occupy the best part of a day pay more than the sitter who takes half an hour. Seek simplicity in manipulation as far as is consistent with progress. Avoid waste by thoughtful buying and careful use of materials and apparatus. In short, imitate the leaders in the big cities whose success excites your envy, viz., *work for success as if you really desire it.*

A new collodio-chloride print-out paper has been introduced in Europe which permits of the single or double transfer of the image from the paper on which the image is obtained to any desired support. It is in all respects similar to the gelatine transfer paper of Liesegang, which already obtains popularity in Germany. Such a paper offers an easy means for the production of lantern slides, transparencies, or photographs for decorative processes.

HYATT'S CONVENTION NOVELTIES.

ALWAYS to the fore with useful novelties for the photographer, the convention exhibit of Mr. H. A. Hyatt, of St. Louis, was this year especially interesting because of the practical nature of the new introductions presented. One of these was Leigh's combination photograph printing-frame, here illustrated, which supplies the professional photographer with a simple, inexpensive means of producing amusing and profitable combination prints.



The important point claimed for this frame is that it does away with the joining lines which so often detract from the effectiveness of combination pictures. By its aid prints from ten inches to ten feet in length may be made with ease, without cutting down the negatives. The spaces between the subjects utilized are equalized, and the prints may be made side by side or above each other.

The introduction of this helper opens a way for the production of attractive display pictures, and makes many things possible in commercial photography hitherto found difficult to accomplish. Series of child pictures may also be made with this frame, which should prove a business-bringer to any studio.

Another "good thing" prominent at Mr. Hyatt's stand was the *California automatic print washer*, which is illustrated in Mr. Hyatt's announcement in the advertisement pages of our current number. This invention will commend itself as extremely efficient, occupying only a small space in the toning- and finishing-room, and an undoubted time-saver. With this washer prints require no watching or handling, nor do they settle at the bottom of the tank.

Peck's pneumatic retoucher, which has won universal approval since its appearance a few months ago, appeared at the convention in an improved form. Its efficiency has been largely increased by the substitution of foot-power for electricity as the motive power, which is found more convenient for operation, as well as more economical than electricity. The new circular, which Mr. Hyatt will send free to all who ask for it, illustrates the advantages of this instrument very plainly. The first of the improved machines was sent to one of our subscribers in New Zealand who desired "the best and most practical instrument obtainable." We believe that he will have great satisfaction in his choice of the Peck pneumatic retoucher.

NEWS AND NOTES.

Photographers desiring to take up carbon printing can hardly do better than send to Mr. G. Gennert, of this city, for his complete carbon outfit, which includes all the necessary trays, solutions, photometer, tissues for prints of several different colors, and an instruction book. Mr. Gennert's new booklet *How to Make*

Photographs in Fifteen Colors, describes the carbon process very clearly, and should be consulted by all interested in permanent pictures. It may be had free on application to Mr. G. Gennert, 24 East Thirteenth Street, N. Y.

The number of salons of photography, held at intervals in various parts of the world, seems to be steadily increasing. At these exhibitions no medals are offered as inducements to attract exhibitors, and the pictures received are subjected to a rigorous examination before being accepted. Consequently the acceptance of a picture by the hanging committee of a salon is satisfactory proof of its artistic merit. At the salon recently held at Paris 635 pictures were hung, representing 217 exhibitors. Of these nine were Americans, twenty-one Belgians, forty-six British, twelve Austrians, and the rest of various nationalities, including many living in France. Carbon prints were in the majority, followed by platinotypes and bromides. The prevailing tone was a cold brown. The catalogue of the exhibition, an artistic piece of work printed on rough hand-made paper with wide margins, was prepared by Robert Demachy, one of the leaders in amateur photography. It was beautifully illustrated. The opening sentence of the preface explains the aim of the salon: "To encourage the production of artistic results regardless of the process."

Lumière's cinematographe, after being successfully exploited in France and Great Britain, now forms one of the leading attractions of a New York variety theatre. The cinematographe, like Edison's Vitascope and Latham's Eideloscope, is an instrument by means of which "animated photographs" of scenes depicting movement, such as a horse-race, a military review, the arrival and departure of a train, etc., are projected upon a large screen. When the pictures are effectively colored the result is surprisingly life-like. Readers visiting our city should not miss these sights.

The Ross-Zeiss and Goerz lenses have been improved as regards the compactness and neatness of their mounting, and the smaller sizes are now made of such bulk as to be suitable for use in hand cameras. This is a decided advantage. In our opinion, the mountings of many lenses made at home and abroad leave much to be desired in the matter of weight and portability. To these details Messrs. Ross & Co. are now devoting special attention with gratifying results. Mr. Gennert, 24 East Thirteenth St., New York, is the American agent for all Messrs. Ross & Co.'s specialties.

OUR PICTURES.

THE leading pictorial feature of our MAGAZINE at this time is provided by the prize studies from the studio of Mr. A. N. Camp, Jamestown, N. Y. We present three of these, selected from his exhibit at Celoron, and the one which affects us as the most artistic is used as the frontispiece. These must so impress everyone as examples of such superior photography as to make it easy to understand why the judges of the eastern division awarded the second prize of Class A to Mr. Camp. Further remarks concerning them can be found on another page.

Our readers are familiar with the studio output of Mr. S. L. Stein. Not long ago we presented sixteen studies engraved from some of his pictures of children, and now

we are enabled by his generosity to present a similar set. Mr. Stein did not compete for a prize at Celoron, yet, by the unanimous vote of the Association, a special medal was awarded for his splendid exhibit—an unusual honor, indeed.

The little "Portrait Study" from Germany represents some of the best work done in the fatherland.

Lastly, we are not often privileged to present so fine an example of grouping as the one representing our fourth inset. It is a very superior example of lens work too, and will be appreciated, we are sure.

See particulars underneath the picture and read the article just above.

EDITOR'S TABLE.

THE NEPERA CHEMICAL CO., Nepera Park, N. Y., whose exhibit at the convention held at Detroit last year excited so much favorable comment, did not exhibit at Celoron, for the reason that their business has increased so rapidly during the year that time could not be taken to prepare an exhibit worthy of the Company's facilities and products. The interests of the Company were ably represented at Celoron, however, by their popular demonstrator, Mr. W. F. MILLER, who had a desk in the auditorium.

THE PHOTOSCOPE is a novel invention, being introduced by Messrs. ROSS & CO., 111 New Bond Street, London. It combines an excellent field-glass, telescope, and photographic camera for making pictures 1⅛ x 1⅜ inches, provision being made for 24 exposures without reloading. This instrument, which, in use and appearance, is in no way distinguishable from the ordinary field-glass, is described in detail with illustrations in a little booklet, which Messrs. ROSS & CO. will gladly send to any address on application.

The Illustration of Books, a manual for the use of students, by JOSEPH PENNELL. 168 pages, cloth. Price, $1.00. For sale by EDWARD L. WILSON, 853 Broadway, New York. Those who are giving their attention to illustration and drawing for process-reproduction will find this new manual by the famous pen- and ink-worker, JOSEPH PENNELL, an excellent helper. Mr. PENNELL is always plain and concise in his explanations, and even those not directly concerned with the illustration of books will find in this handy little volume many hints and suggestions which apply usefully to photographic work under the skylight and outdoors. The character of the book may be understood by the headings of its various chapters, viz., What is Illustration? The Equipment of the Illustrator. Methods of Drawing for Reproduction. The Reproduction of Line-drawings. The Making of Wash Drawings and their Reproduction by Mechanical Process. Reproduction of Drawings by Wood-engraving, Lithography, Etching. The Printing of Etchings. Photogravure and Photolithography. Making-ready for the Printing-press. We commend this book to our readers as an admirable companion volume to Hinton's *Handbook of Illustration*, but it will be found helpful to all, whether beginners or experts.

THE PHOTOGRAVURE AND COLOR CO., 137 West 23d Street, New York, is a new company organized to take over the plates and presses of the defunct New York Photogravure Co. Mr. ERNEST EDWARDS is the president of the new concern, which will undertake photogravure work, photo-gelatine printing, and three-color reproduction by the photo-gelatine process. Mr. EDWARDS' well-known skill and long experience in these methods, which he originated, assure the success of this enterprise. He has our cordial good wishes.

"THE OLDEST PHOTOGRAPHER."—Among the conspicuous absentees from the Celoron Convention, writes Dr. GEO. G. ROCKWOOD, was our old friend, ENOCH LONG, of Quincy, Ill., always hitherto in attendance at our gatherings. Mr. LONG is probably the oldest photographer in active business in the United States. He made his first daguerrotype in 1842, and was only prevented by illness from celebrating his fifty-fourth year in photography at Celoron. Long life to him!

MR. J. A. TODD, the manufacturer of Alta Print-out Paper—a favorite among Californian workers—advises us that his paper factory is removed from Fillmore Street to 1016 Broderick Street, San Francisco.

210 BABIES PHOTOGRAPHED with a Ross Twin-lens Camera in seven hours by an Australian photographer. This is the heading of a circular just received from Messrs. Ross & Co., opticians, London. It is a spendid showing for this magnificent hand-camera, which excels all we have seen. Mr. G. GENNERT, New York, has imported several of these cameras to order.

INFORMATION regarding a very desirable business, which may be had at a reasonable figure, may be obtained by communicating with JOSE AUFOR, 32 High Street, St. John's, Antigua, Leeward Isles. Mr. AUFOR writes that, being alone and in ill-health, he desires to dispose of his studio. Antigua is beautifully situated for those seeking a mild climate for health's sake, and hence the opportunity is one worthy of attention.

The Home Magazine, Binghamton, N. Y., edited by W. MILL BUTLER, is fast taking its place as one of the most readable and ably conducted of our monthly journals. The July number was a special, patriotic issue, and contained, among other features, Edward Everett Hale's great story, "The Man without a Country," with an article by Dr. Hale telling how the story was written. The price of *The Home Magazine* is 25 cents, monthly. Yearly subscription, $3 00

HONOR FOR THE GOERZ ANASTIGMAT.—At the recent photographic exhibition at Haarlem, Holland, the firm of C. P. GOERZ, Berlin and New York was awarded the first premium and special diploma of honor for photographic objectives. From a recent account of the GOERZ factory, published in a German contemporary, we learn that there are employed by Mr. GOERZ over 250 work-people, exclusive of forty opticians working outside the factory. The number of lenses produced by the firm, which has not been in existence many years, has now reached 29,000.

THE subjoined letter, received by Mr. G. GENNERT, 24 East 13th Street, New York, as trade agent for Metol-Hauff, will interest all who have experienced trouble in the development of films:

EAST BRIMFIELD, MASS., July, 8, 1896.

MR. G. GENNERT, N. Y.

DEAR SIR: Enclosed I send you one dollar, for which please send me by mail immediately its worth in Metol-Hauff cartridges for developing negatives. I am in a hurry for it, and it may interest you to know why. I returned last fall from a trip around the world, occupying something over a year. I had a 5 x 7 camera and took some cu films (and ought to have taken more of them) and several rolls of films, 34 and 57 exposures; but I used up so many in Japan and China that I was likely to run short before I reached Cairo (where I had ordered some forwarded to me), and in Ceylon I was fortunate enough to buy from a fellow-traveller a roll of 100 exposures, which I used up mostly in India and the end of it in Egypt. I developed a good many of the exposures on other rolls while staying over a month in Rome (at the Pension Chapman, where I found most convenient facilities), and after returning I worked at them as time would allow, but the long roll proved very unsatisfactory, and I could not develop any of its exposures to even fairly decent negatives. I sent four of the exposures to a professional friend in New York, and he made as bad failures of them as I did, and said it must be the fault of the camera, and so the matter rested until I went South last winter, and I have felt badly about that ruined film and the consequent loss of pictures of so much value to me. I resumed the work recently with no better results, and I began to think it was now the long time that has elapsed (almost a year and a half) since the exposures were made which spoiled them. I tried last fall and now various developers—pyro, eikonogen and hydrochinon, Eastman's developing powders, and even iron oxalate—but to-day I chanced upon some Metol-Hauff cartridges, which I had carried around the world with me, and in sheer desperation I tried them, and, to my great astonishment and delight, I found they yielded fine, crisp negatives. It but mildly expresses it to say that I am more than pleased, and this is why I want some more of this developer at once. I spent two or three hours one forenoon in Jeypore, India, to get a certain picture for a lantern-slide. The natives crowded around me by the hundreds, so that I had to abandon the effort for a while and drove about the city until the crowd had dispersed, but when we returned to the selected spot (Mrs. Rogers being with me) another crowd quickly collected, and at last, in sheer desperation, I had to take the whip from the carriage and chase them away. It was comical to see them run.

Finally, I made the exposure, and I had been thinking whether that would be a failure like all the rest I had developed on that roll of film. To-day it appeared on the roll, and it proved to be a splendid negative, thanks to Metol-Hauff cartridges. Do you wonder that I can recommend them highly?

Yours sincerely,

MARCUS H. ROGERS.

Em. Mai & Co. *Budapest.*

PORTRAIT STUDY

(Beilage zur *Phot. Correspondenz.*)

Sept

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. SEPTEMBER, 1896. No. 477.

ON THE GROUND-GLASS.

Two sturdy old bulbs caught new life at Celoron and are sending forth stalks with vigor, which will result in some healthy blooming if they are guided carefully. One of these is the desire for better Art work, and the other spreads toward State organization. *The Ground-Glass* finds much entertainment in watching the progress of these. Like the illustrations in the "Topsy-turvy" books, they present pictures which may be looked at in both ways; but there is always a choice, and that choice should be the one which will afford the most benefit to the greatest number of people.

Let us reason together. Whatever we do, let us do it thoughtfully. Let us train for solid results. Intelligence, sincerity, and courage are the elements whose requirements one must fulfil if we would grow aright. The enthusiasm for more of the art quality in our photographs is well started again. It prevailed at Celoron; it has sent home several wiser and better men from some of the State conventions which have met this year, and the fever is spreading. The thing for all who have caught the infection is to go carefully and on the right track. One of the letters recently received is this:

"Having just returned home from our convention and 'School of Photographic Art,' full of enthusiasm, because of the first taste of true art principles that I have ever been able to realize and appreciate, I now feel that it is no longer possible to get along without being in possession of the good works on art that have been published. The first of these works that we must possess is Burnet's *Art Essays*. This I read seven years ago, when I was not a photographer and had not the means of putting into practice the impressions received. Now having gotten at the foundation it becomes clear to me that there is benefit to be derived from a second reading.

"I know nothing of the cost of publishing such a volume, but if you have succeeded in disposing of one issue, you can certainly dispose of another like number, for the photographers are just getting their eyes opened.

"Now help us up, but let me suggest something to you: Why not get copies and publish our salon pictures? They would *sell*.

"Many of us get a few original prints of our successful photographers, but it runs into money too fast to get all in that way.

"In conclusion, let me congratulate you on your good work during the past year (magazine work): The real art letters on 'The Beautiful,' 'On Portraiture,' etc., are fine, yet, do you know that much of

your good intention in this line has gone wide of the mark because you did not get down to where we are?

"The lectures on art principles at our State meet have opened our eyes, have enabled us to get hold of the first rung of the ladder. Before, we have groped in the dark; now we begin to see the light, and we are going to climb.

"Give it to us now. Art, art principles, no more about developer, fixer, reducer, intensifier, etc. We don't need those things. We are five years ahead in them now. I mean it will take us five years to get our art knowledge up to where we stand technically.

"Enthusiastically yours, J. R.

"P. S. Now that interest in art knowledge has awakened in America, don't think of allowing such a work as Burnet's to go out of print. The demand will surely be great, and you are the one to publish it, as you have the necessary cuts for illustration. Yours,

"J. R."

This is typical of the correspondence which now reaches *The Ground-Glass*. The writer of it is growing, and is growing in the right direction. He would have written differently upon some particulars, however, if he had been more experienced or had been better informed. If he had been familiar with the pages of this MAGAZINE since about 1867 he would know that a series of articles began in its pages in that year, entitled "Art Principles Applicable to Photography." These articles were highly illustrated and formed the first systematic series of such articles ever published. Further, art principles have been treated ever since in these pages, and their author has embodied them in well-illustrated departments of his *Photographics*, *Quarter Century in Photography*, and *Cyclopædic Photography*, thus always keeping the student well supplied. So, our correspondent has not been awakened sooner—much to his loss—because he was not aware of the abundant helps at his hand.

In many ways studies of the best work have been offered for sale, but the returns for the labor entailed were not encouraging. Some of the articles published for the novice, it is true, may have gone "wide of the mark." But the novice is not the only one to be provided for. He has the principles in the books named. He is expected to grow, and he should expect help to growth. For this the advanced articles are supplied. We cannot any of us afford to remain "down." There should have been no "groping in the dark" for the last twenty-nine years. And there shall be none necessary so long as this pen can trace the lines.

We like this enthusiasm. But let there be no retrograde movement. A noted German stock speculator once said: "Ven I makes up my mint to puy a stock I sells it." This must not be the way of the art student. Get all the art stock you can, even if you have to pawn some other capabilities to secure it. Perhaps our correspondent above is correct in assuming that we might withhold some of our technical stock, or at least let it simmer awhile, and give our undivided attention to the pursuit of art advancement.

We are not to be alone in this *renaissance* of art in photography. As always, our foreign compeers are with us. On another page will be found the plea (which *The Ground-Glass* sincerely hopes will be read with care) of the noted president of one of the chief organizations across the water, for "Pictorial Photography and Portraiture." It is every word good, but one or two thoughts are worthy of a double place in this number of our MAGAZINE, as follows:

"The subject of pictorial photography is one on which I easily become enthusiastic; but I have introduced it here with a definite practical purpose, as well as because I thought you would expect it.

"Some of you are professional photographers, and I am told that the business is not now so good—with those particularly who never attend this convention—as it used to be in former times. Now, my firm opinion is that there wants some such revolution in the portrait profession as has taken place in the opinions and practice of those whose chief aim is pictorial photography. The way to that desirable goal is through harder study of art, on entirely different lines from what is usual, and the greater confidence which knowledge brings."

We all need to earn our livelihood, and therefore this point may reasonably be emphasized.

Now let us consider the second bulb and the sort of blooming we may reasonably expect from it, together with the best methods of securing a healthy and beautiful growth.

There are principles involved in the organization of State associations as well as in the pursuit of art. These should have the most careful thought. Moreover, as in other enterprises, so in these, the organizers should first well formulate in their minds their prime object and then consider well the best ways and means of accomplishing that object. A lack of this sort of forethought has already caused some of the enterprises to lag.

Four prime elements are necessary to success: namely, faith in the enterprise; sincerity of purpose; dignified independence; and a sturdy willingness to help whenever and wherever your help is needed.

At the first meeting of the old "National" a photographer from Peekskill, N. Y., when rallying those present to become members, said: "That the reason why photographers did not contribute readily and freely to oppose the bromide patent was because they were afraid that the thing could not be carried out. If all could have foreseen that the patent could be killed, four times the amount would have been given.

"Mr. Cremer said that many have refused to pay anything since the bromide patent has been killed."

This was in 1868, when the photographers were popularly considered "a low-down set." Although *The Ground-Glass* has witnessed many changes in our craft take place for the better since then, it grieves to assert that much of the old spirit alluded to above yet remains in many quarters. Friends, to get all you can and give nothing is not the right way. To show by your presence at a convention that you are interested is pleasing to the workers; but to withhold your reasonable share of support is mean, discouraging, and unworthy of any member of our profession.

An association cannot be maintained by the circulars issued by the few earnest and generous organizers, any more than the public can maintain a gold standard upon the phantom gold of the wire-pullers. Everyone interested and benefited should help lift. Let go your boot straps and lift with the rest for the good of all.

A word now for those foremost in the organization of State associations. Your object, we know, is for the advancement of our profession in all directions. One of the first steps toward attaining this is to be dignified and independent. You cannot do this so long as you show lack of faith in your cause by making appeals to outsiders for help or eleemosynary aid. In this category come direct appeals to

dealers and manufacturers for contributions of money, and prizes, and in the solicitation of advertisements for revenue. This is placing yourselves in the beginning in the arms of a commercial nurse, and is the first step toward pawning your independence. It ends in your being "owned" or "run" by those who hold no hearty interest in you except so far as you pay them back.

And you may be sure you *will* pay them back for all you receive, with good interest, one time or another. Moral: Run your own affairs independently, and all personally do a fair share.

The Ground-Glass has received from a dealer two circulars sent him by the officers of a society recently organized, which illustrate this point. They are appended herewith:

DEAR SIR: 1. As we are a new association we do not feel able to spend money for prizes. Thinking you might want to give us something to help us out, we write to you. Anything you may wish *to give* will be *greatly appreciated* by the committee.

2. The Executive Board of the —— Association of —— will publish a catalogue this summer which will embody constitution and by laws, prize list, and all business pertaining to our convention, which will be held at —— ——. Also names of members with address. It will be a neatly gotten up book of about 50 pages (this size), in which we would like your advertisement. Price, $10.00 per page.

Will publish 1000 and send to all the photographers in the State and to large towns that border this State. Send your copy as soon as possible, and we will appreciate it very much.

Fraternally yours,

—— ——,

Secretary.

You may consider this "smart" business, or "dead-beat" business, or "boycotting" business, or whatever you please. It is none of it within the province of a dignified scientific, and art organization, and our craft will never reach a first-class standing so long as its well-meaning but mistaken officers degrade it by such means, and so long as the hearty support of the craft of their State is denied them. Do not let us be slain in the house of our friends. Let us provide our own fuel, and not depend upon the fences along the line.

It is better to move more slowly—and more surely—than to undertake so much—so much more than the treasury warrants.

High Art, *Independence*, and *Dignity*, with large Roman capitals and more of the ancient Roman spirit are what we should aim for. Keep them in sight, and *lift together!*

BLACK SURFACE MARKINGS ON BROMIDE PRINTS.

BY DR. LEO BAEKELAND.

ALMOST every consumer of enamelled bromide paper has now and then been troubled with black markings on the surface of the developed prints. Sometimes these markings are of the character of pencil-marks of irregular shape; sometimes they are all turned toward one direction and the lines are parallel to each other. Frequently, too, they affect an irregular shape, as if a finger dipped previously in some dark staining medium had been passed over them. These peculiar markings have puzzled and annoyed photographers who did not know to what cause to ascribe them. They occur most with glossy or enamelled bromide papers, being very seldom found in matt or rough-surface bromide paper. They do not show in undeveloped prints, but are only brought out in development. An immaculate sheet of

bromide paper, uniform in coating, with good emulsion and apparently free from defects, may, after coming in contact with the developer, show these various surface-markings, especially if the print has been somewhat undertimed, or if development has been forced in order to get the image out. Lack of bromide of potassium in the developer, too strong or too warm developing solutions, are also liable to increase this trouble. Paper which has become very old may have a greater tendency to show surface-markings than if it were of more recent manufacture, although very fresh paper may frequently show the same defect. I have become thoroughly convinced that these black surface-markings are due simply to pressure or friction on the sensitive bromide film. I am inclined to think, furthermore, that their occurrence may be dependent to a certain degree on electrical conditions. It is a well-known fact that any friction or pressure is liable to develop a change in electrical conditions. I have been able to observe more than once in very dry weather that the very fact of pulling the sheet of bromide paper over another or over a table produced electrization of the paper; this was made apparent by the fact that it was adhered noticeably to the table on which it was handled. When unrolling big rolls of bromide paper the same phenomenon is liable to occur. If my supposition is correct, this would explain why some days these surface-markings are more liable to be produced than on other days, and why this should occur at unexpected times and on paper of which the emulsion is otherwise absolutely faultless. All of this brings us down to the fact that bromide emulsion paper is an exceedingly delicate chemical article, which has to be handled with the utmost care. Clean white gloves have been used for some time for handling dry plates and bromide paper in the factories where they are made. But this prevents only soiling the surface of the emulsion film by direct contact with the fingers. The very fact that bromide paper has to be wound and unwound, and has to be packed so that each sheet touches the other, affords many opportunities for the production of future surface-markings. The dry-plate manufacturer can to a certain extent avoid this trouble by packing the dry-plates in such a way as to keep them separated by means of paper strips, thereby preventing the bromide film from touching anything until it is developed.

Notwithstanding all this, many photographers have been bothered with surface-markings, affecting the shape of pencil-marks, appearing during the development of their negatives. This effect may almost certainly be produced by causing the slide of the plate-holder to rub against the plate. Think what would occur if dry plates (as bromide paper is) had to be wound up and handled several times both by the manufacturer and the consumer, having each time an opportunity of undergoing friction or pressure on the bromide emulsion film!

Many remedies have been suggested for removing from the printed image these troublesome surface-markings. One of the oldest and best methods is to clear the markings away by means of a brush dipped in cyanide of potash solution, but this is rather dangerous on account of the poisonous properties of cyanide of potash. They can also be removed by cleaning the dry print by means of a piece of moistened cotton. This goes much easier if the cotton has been dipped in water containing a few drops of ammonia. All the above remedies are liable to injure the film of the image if they are not very carefully used. To my knowledge the very best and quickest way for removing surface-markings is to clean the dry finished print with a tuft of cotton dipped in plain wood alcohol. This allows rubbing to such an extent as to remove easily the stains in ques-

tion without scratching the film. Ordinary alcohol can be used for the same purpose, but it is far more expensive. Those who do not know of this remedy will be surprised when they find out how easily it will enable them to save bromide prints which otherwise would appear entirely worthless.

LABORATORY OF THE NEPERA CHEMICAL CO.
August 7, 1896.

PICTORIAL PHOTOGRAPHY AND PORTRAITURE.

THE British Photographic Convention was held this year at Leeds, under the leadership of Mr. H. P. Robinson. It was, in every sense, a most enjoyable and profitable gathering. The days were spent in photographic excursions to the various places of pictorial interest round about Leeds, where the convention met. Almost every member attending these excursions carried a hand camera, and on the excursion to Fountains Abbey, near Ripon, over one thousand plates were exposed. A social luncheon invariably ended these outings. The business sessions of the convention, and the discussion of the papers read before it, were held each evening, while an exhibition of one hundred selected examples of artistic photography formed a rallying-point accessible at all times.

The presidential address before the British convention has always been considered as one of the chief features of the event. The address delivered by Mr. Robinson this year was one so full of suggestive value to the professional worker that we give herewith an extended extract from it, hoping thus to encourage the movement in favor of pure photography already evident among American professional workers. Mr. Robinson said:

"I think it must be admitted that pictorial photography has made great advances the last three or four years. The initiation of the salon was the outward expression of what has become nothing less than a revolution in pictorial photography. The salon was not an accident. It was thought over and discussed for some years before it was attempted. It was received with derision and the usual endearments which try the quality of every new thing that is worth trying; it not only withstood the onslaught, but it converted all opponents worth converting, and made them into very good friends; and the salon is now an institution that, I believe, no true photographer would willingly let die. And what is the theory of the salon? The main intention of its promoters was to keep pictorial photography (which was in some danger of extinction) pure and to itself, and to lead it out of the groove in which it was withering. It was a struggle for liberty, for freedom from conventionality, for individuality. The object was to look to the end, to make a good picture without being dragged away by side issues; to treat the materials as our tools, and not the main or sole consideration; to be content with a negative when it was adequate, without measuring its density, or trying to prove that, if another similar plate were exposed under the same conditions, the photographer had no power of making other than a *fac simile* of the first; feeling and expression in the print were to be more valued than the bloom on the film; that how a picture was made was a matter between itself and its maker, which could not be described in a formula; and, in short, that there should be a great deal more of the mind of the man than evidence of his camera. Under these auspices, landscape has become, from being an unemotional transcript of a view, a sympa-

thetic interpretation of dominant characteristics, and portraiture raised to a dignity to which it has not hitherto aspired.

"There is this difference between many of the pictures in the exhibitions under the old *régime* and the new. In the old, the photographer seems to have selected the view, and the camera did the rest, whether the photographer liked it or not; in the new, if there is any evidence that a camera was used, it was only as a tool under control. If one or two exhibitors, in their zeal for originality, have overstepped the borders of the sublime, with the usual unfortunate consequences, who shall blame them? I hold that not one of their apparent failures has been wasted; there has been more use in some of the much-laughed-at lunacies than in acres of what, for want of a better phrase, we may call 'the usual thing.' It was soon found that those who came to laugh remained to praise. The eccentricity of yesterday, if it has not become the commonplace of to-day, has evolved from a thing to be laughed at to be something to think over.

"The work of the extremist is done, and it is now left to the more moderate to show, as it has never been shown before, that even a photograph, as Zola says of other works of art, is 'a piece of nature seen through the medium of a temperament.'

"The subject of pictorial photography is one on which I easily become enthusiastic; but I have introduced it here with a definite practical purpose, as well as because I thought you would expect it.

"Some of you are professional photographers, and I am told that the business is not now so good—with those particularly who never attend this convention—as it used to be in former times. Now, my firm opinion is that there wants some such revolution in the portrait profession as has taken place in the opinions and practice of those whose chief aim is pictorial photography. The way to that desirable goal is through harder study of art, on entirely different lines from what is usual, and the greater confidence which knowledge brings.

"We make no attempt at originality or individuality. Let the thought I am about to state take hold of you and awaken your consciences. This very day, bad as the times are, the professional photographers of England have taken many thousands of portraits. These 'counterfeit presentments,' with very rare exceptions, are all manufactured to the same conventional pattern, with very little variation, since—let us say—the cabinet portrait was introduced. Do you wonder at the public getting tired, even of beautiful mauve albumenized paper and billiard-ball retouching, the stolidity of the stiff pose, or the strain in the pictures of those who attempt 'a grace beyond the reach of art?' Are you surprised that the public rush for the quiet simplicity of those portraits which appear almost too simple to be art, but which are all art, that have been shown you in the salon? With regard to the public, I met with a curious illustrative example only the other day. A month ago I was one of between two and three hundred guests at a double wedding. The previous day I had an opportunity of suggesting that a professional photographer should be engaged, and was crushed by the reply, 'We are tired of highly polished, professional photography,' and thus what I know would have been a very large order was lost.

"I am, perhaps, becoming too dictatorial, and really feel I must apologize; but to me the decline or stagnation of photography is like the illness of a personal friend—I cannot stand by and see it die without an effort, however ineffectual.

"Now, as I have indicated, what we want in professional photography is some such revolution as we have had in the pictorial division. I am much among pho-

tographers, and find that when a man gets out of the old groove it shows that the thought he is using is his own, and not his neighbor's; if he has any skill on the pictorial side, he succeeds. I also notice that no man will care how low his neighbors drive their low-class trade, so that for whatever he charges he gives money's worth in quality. It may interest some photographers to know that there are often sold at the salon, and the purchasers value them as treasures, simple untouched prints, at from two to five guineas each—not according to size or weight—which the ordinary photographer would value at less than half a crown a square foot. They are not even on mauve albumenized paper, and possibly not retouched, yet it is thought that quality accounts for the price.

"In connection with portraiture, there should be plenty of room in large towns for specialism. I only recollect two specialists, but they did well—Adam Salomon and Camille Silvy. The latter was the first in time; the only kind of photograph he produced was the *carte-de-visite*. He also confined himself to one quantity and one price (forty copies for two guineas), and when he had taken forty sitters in the day nothing could induce him to take another. His carriage was in waiting every afternoon to carry him away from the importunity of his would-be clients. Surely this was good business, not beneath the attention of the modern photographer. Adam Salomon was the other specialist I have known; he produced one kind of picture only; it measured 10½ in. by 8½ in., and was covered with a piece of glass, but not framed. His price for the first copy was one hundred francs, or £4, and it was worth it. Another praiseworthy characteristic of Salomon was that he selected his sitters. If he judged a sitter unworthy of his camera, he declined to photograph him.

"Much as his work wants improving, the portrait photographer has done a worthy work in the world. I could appeal to your feelings as to the aid his work has been to family affection and the domestic relations, but this has become rather trite. I can, however, point out a fact that I do not think has had the attention it deserves.

"There are not many painters, perhaps, who are prepared to acknowledge the fact that photography has not only improved their drawing, and light and shade, but also their taste, and the taste of the world. We no longer see any very great absurdity in a painting—none of the old background horrors, for instance. But I mean deliberately to go a great deal further, and I believe I am perfectly sane when I say that photography has given a loftier tone to art altogether. I feel that this statement requires to be illustrated, if not mathematically proved. Years ago, before the beneficent influence of photography, everybody who could draw a line claimed to be an artist, and his claim was allowed. If he claimed to be a professional, he looked down with contempt on the most accomplished amateur. Photography is more particular, and has taught us to look for other qualities besides the mere use of the pencil, the brush, the chisel, or the camera. A man is no longer an artist because he can make a picture, any more than the writer of doggerel is a poet."

To Prevent Bromide-prints Curling. A writer in the *Amateur Photographer* recommends that after the final washing bromide prints should be immersed for five to ten minutes in a bath of weak glycerine. The quantity of glycerine to water must be proportioned to the thickness of the paper, and as little used as possible. For thin, limp papers one part of glycerine to twenty parts of water will be found sufficient, while some of the stouter papers will require one to three parts.

Spencer Judd. *Scranner.*

WATCHING THE GAME.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

(Continued from page 324.)

ADVANCED SERIES IV.

THIS exposition of a system of color-study has been undertaken with "Process Chromatics" for a title. An author of note has defined the term chromatics as denoting "the science treating of the relations of light, shade, and colors, because these are the sole primary and peculiar objects of sight and the elementary principles of chromatic science." At intervals we have had a sort of "round-up," as they say in the West—a test of the knowledge acquired at certain stages of the experiments we have made in the cultivation of the "sixth sense"—the color faculty.

Those who have followed the instructions before given will at this time have acquired the command of materials needful in order to construct the chart in water-colors given with this lesson.

Persons of cultivated tastes delight in the mild harmonies, gentle contrasts, and delicate accordance of the tertiary scale in which the three primaries are most intimately combined, and for the reason that the critical eye demands a concurrence of the three primaries broken or entire in every harmony. The uncultivated eye delights most in the crude combination and violent contrasts of the primaries, and hence is rarely offended at disproportion or discordance. It is difficult to determine how far the powers of vision in some individuals may be cultivated, but to some, at least, it is evident in the works of Nature that she delights in refinement and gradation of color.

In Nature the broad harmony in landscape lies in the relations of the tertiary scale, while the confined harmonies of the primary and secondary colors belong to flowers and fruits.

Let us glance at a well-colored picture or a landscape in Nature. Looking through the broad diffused spectrum we shall see that the warm extreme lies principally in the foreground at our feet; the cold extreme in the highest distance, yet both bounded by shade. There is an alternating contrast and variety with the lights, local colors, and reflexes throughout, while the harmony is varied by the key of the coloring.

Painting is as much a logical process as any other act of the mind. The artist may proceed analytically or synthetically in the designing, coloring, and painting of his picture. If he has a daring genius he will get in his masses, and next run over the parts and revise incessantly, attentive to *the whole*. An antithetical method is conducive to the best results. A principal particular is brought out strongly, and to this the whole is subordinated as it proceeds, this being the prime principle of truth, beauty, and excellence.

Proceeding upon the triad principle, we note three methods of painting: first, the mechanical; second, the experimental; third, the intellectual or studied method. An anecdote may serve to point the moral here:

Three painters of the Dutch school for a wager once agreed to paint a picture in a single day, in presence of an assembly of artists, and these competent critics were to decide upon their relative merits and success. The names were Knipbergen, Van Goyen, and Parcelle. Knipbergen began at once in the mechanical method. He made a finished study, which he transferred piecemeal from the sheet to his canvas. Van Goyen in the experimental

method laid in his sky, then located the lights for his foreground, and from seeming chaos he produced the objects of his fancy, often taking effects from accident in a manner surprising to his brother artists. All this time Parcelle, with his palette and brushes unused, sat before his easel in deep thought. At length, having decided just what he would do, he slightly lined in his canvas and painted straight to a finish, accomplishing his work within the prescribed time. Now the first trusted to memory and wrought by a happy knack of handling. The second gave rein to his fancy and relied upon a quick eye to set him right. The last with thought and study overruled all his faculties. The judges liked Knipbergen's picture, spoke of Van Goyen's as excellent, but reported that Parcelle's was of equal merit in artistic quality, yet excelled the others in truth and correctness, and to him they unanimously awarded the prize, because his picture was the result of judicious premeditation. It is evident, however, that meditation can be of no avail in art unless the mind be well prepared by previous study.

In teaching the construction of this chart, I shall embody the principles upon which we have dwelt in previous lessons, using no terms not heretofore employed. With compasses open to a space of two inches, describe a circle four inches in diameter. Mark the centre of this large circle X. With the compasses open at same radius, divide the circumference into six equal spaces, marking each space at top, the starting-point No. 1, next to right No. 2, and thus around the entire circle to No. 6. Connect No. 1 and No. 4 by a vertical line; also No. 2 and No. 5 and No. 3 and No. 6 by other lines.

Within this circle we now proceed to describe six smaller circles springing from X, and intersecting with each other and with the outer circle at the six points. These circles will be two inches each in diameter. Then set dividers at one inch and space off on each of the lines drawn one inch, and mark the point on line connecting No. 1 and No. 4, No. 7. Mark the point on line for No. 2 and No. 5, 8, and so on around, ending at 12 on line connecting No. 3 and No. 6. These points, Nos. 7, 8, 9, 10, 11, and 12, are now the centres of the six desired circles. Describe them carefully. Each should just touch X and the outer rim of a large circle. There will also be a small star radiating from X for the secondary and tertiary colors.

The top triangular space from 1 to 7 color a normal red, a red with some orange in it. The space 3 to 9 color your normal yellow as near like sunlight as you can. The space 5 to 11 color blue, broken and warmed as before given. Our three primaries now lie in a triangle. The spaces opposite each are reserved for the secondary colors that are *complementary* to each. Color space 4 to 10 green mixed from your blue and yellow remaining from primaries. Color space 2 to 8 orange made from the red and yellow already on paper. Color space 6 to 12 purple made from blue and red remaining from primaries. The outer large spaces are now all filled; the star and spaces continguous are now to be treated. Take a fine brush and paint the top space of star under 7 russet mixed from the colors lying each side of it, viz., orange and purple. Paint the space of star between X and No. 9 citrine mixed from colors lying each side, orange and green. Paint the space of star between X and No. 11 slate or gray mixed from green and purple.

Here we have the tertiaries, and the colors to produce them lie upon each side. Turn attention now to the larger open spaces. To the right of russet, between 7 and 8, we stipple fine dots with brush point of red, let dry, and fill the remain-

ing spaces with orange for a red orange. The space between 8 and 9 you stipple with orange, and when dry fill in remaining spaces with yellow for a yellow-orange. Between 9 and 10 stipple green, and when dry fill up spaces with yellow for a yellow-green. Between 10 and 11 stipple blue, and when dry follow with green for a blue-green. The space between 11 and 12 stipple with purple, and when dry follow with blue for a blue-purple. The space between 12 and 7 stipple with purple, and when dry follow with red for a red-purple. The space from 12 to X on star stipple with purple and russet for a dark purple. The space between 8 and X stipple with orange and russet for a dark orange. The space between 10 and X stipple with green and follow with slate or gray for dark green.

The chart is now complete. It exhibits the primaries and complementaries opposite; the secondaries and the broken colors and complementaries; the tertiaries and broken tints of same. We have besides colors in juxtaposition, and a comparison with such in previous paper is invited.

(To be continued.)

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XVIII. "SELLING OUT."

MAKING a conservative estimate from things seen and heard during the past year or two, one may safely assert that fully one-tenth of the ten thousand photographers throughout the Union would be glad to get a reasonably profitable chance to retire from business. How to "sell out" is therefore a question well worth discussion.

The way in which, within my knowledge, many photographers attempt to "sell out" often shows a strange lack of commercial intelligence. Apparently regardless of the real value of what they want to sell, or the best way to effect a sale, they seem to fix upon a certain sum needed for their next enterprise, and then in an aimless way look for a purchaser at this price. Generally they insert in their favorite photographic journal a very much abbreviated advertisement, or post the "gallery for sale" at the nearest stock house, with a vague offer of a bonus to the proprietor in the event of his assistance leading to a sale. After that they await the progress of events.

The best way to sell out, and the most profitable, is the right way. And that way is to go carefully over the business, estimating the actual value of all that is to be sold, and then, after deducting the amount to be sacrificed to induce a ready sale, to make the advantages of the business and its selling price as widely known as possible.

To estimate the selling value of a photographic business is by no means as difficult a matter as it is supposed to be. It is something which should be done every few years in all businesses, so that a man may know what he is worth apart from his bank account and outside speculation. It should be undertaken with good sense and judgment—side issues, probabilities, and personal sentiment being put aside until the "salable assets" have been summed up.

As a matter of course, every estimate must be based on the particular circumstances of the case. Here I can only take up typical instances and draw general conclusions. We will leave out of all consideration, as beyond the province of this article, the sale of business premises or real estate. Such combination sales are rare, and may be left for individual treat-

ment. In the majority of businesses offered for sale the premises are held on lease for a number of years or may be rented from month to month.

The things to be considered in selling a business are: First, the stock-in-trade, including apparatus, photographic material, and negatives; second, the book debts and good-will; and, third, the volume of business done yearly, including special sources of income, such as "concessions," copyrighted pictures, etc.

The valuation of the stock-in-trade need not cause much trouble. If the photographer has been more than four years in business he can arrive at the selling value of what he has by summing up what he paid for the things, and then deducting from thirty-three and a third per cent. to fifty per cent. for depreciation of value. This deduction may appear to be too large in some instances, as in the valuation of a stock of standard lenses, or photographic materials of fixed price which have not been long in stock; but, when all things are considered, about half the original cost will come near the salable price of a photographer's stock-in-trade after four or five years' use. One must keep in mind a few hard facts with which to level the fallacies which crop up as one goes along. A common fallacy, for instance, is that which makes a man believe that a Dallmeyer or Ross lens is always worth its original price. These lenses may be worth their price, new or old, but the fact remains that as the years go by the number obtainable at greatly reduced prices increases largely, while new lenses of different capacity are all the time being introduced. Apparatus, too, is being improved and reduced in price year by year, so that the Williams flash-lamp (as an instance), for which a man paid $100 only a year ago, may now be had new and improved for $60.

The valuation of the negatives accumulated in the course of business is a much more troublesome detail. A great deal depends upon their condition, whether carefully stored and registered. A thousand negatives from the trade of the past two years, properly registered and stored, are worth more than a mixed collection of ten thousand poorly classified and kept, covering a business back to wet-plate days. The first step, then, in preparing a business for sale should be to put the negatives in order so that their value as an asset may be apparent to would-be purchasers. Personally, I think that the income derived from duplicate orders of the two previous years should be a fair price for the negatives included in the sale of any business. Another factor in determining the value of a collection of negatives is the class of trade done by the studio offered for sale, the prices obtained for work, and the cost of production. The value of negatives of well-to-do people, made in a well-established studio, is of course much greater than that of negatives offered with a low-price, popular studio located among working people

Taking the average collection of negatives such as we find in the small town gallery, with prices for cabinets ranging from $1.50 to $3 per dozen, $25 per thousand for cabinet negatives would seem to be a reasonable figure. For negatives larger than 8 x 10 from $25 to $50 per hundred may also be taken as a likely price at which to sell. But, of course, a hundred modifying conditions may interfere in this department, and one cannot attempt a valuation without a full knowledge of the particular business in which the negatives have been accumulated. It may, however, be said that, as a general thing, negatives taken more than from five to ten years previous to the sale of a business are worth little or nothing. Some photographers have strange ideas about this matter. Not many months ago I applied to several of our metropolitan galleries for a dozen old cabinet negatives, such as they

had no use for. In reply one photographer quoted "a few dozen at $18 per dozen." Another offered "as many as you can use at 10 cents apiece." Where a collection embraces public men or people noted in any special walk of life, of course the pro rata value will be higher than for a collection of every-day people.

Coming now to the valuation of book debts and good-will, we have to deal with much variety in values. Accounts over ten years old, which have not been permitted to lapse, may be valued at about 25 per cent. of their total sum. Accounts varying from ten to five years old may be rated as worth 50 per cent. of the total. This is a liberal estimate, and an offer of 25 per cent. for all debts over five years old should not be refused. Debts less than five years old may be assumed to be worth from 60 to 75 per cent. of the total.

The best way to deal with book debts, where a business is to be sold, is to notify each debtor of the intention to dispose of the business, mentioning the likelihood of the collection of accounts being pressed after the transfer of the business, and offering to settle all claims over two years old on a basis of 50 per cent. discount. Another way is to put all accounts of more than a year's standing into the hands of collectors, but the amount thus realized will be much less than 50 per cent. of the whole, by reason of commissions and expenses.

The value of the good-will of a business varies in every business according to its circumstances. Where exclusiveness of trade or location can be claimed the value of the good-will will necessarily be high. Where a business is only one among many fairly equal competitors the good-will may not be a salable asset, but can perhaps be utilized as an inducement toward a sale. The question of prices obtained for work, the proportion of cash trade, and the cost of doing business also enter largely as factors raising or lowering the value of the good-will of a business. One of the easiest ways of arriving at an idea of what a business is worth, apart from the stock-in-trade, is to double the net profits of the last two years' business. If the business is growing in value this estimate will afford a reliable basis on which to get at the value of the good-will, allowance being made for special conditions. "Concessions" and negatives bearing royalties, or profitable as protected (copyrighted) property, may be estimated separately on the basis of the profits of a year.

If the desire to "sell out" is real, or circumstances make it obligatory, the chief care in making all estimates should be to avoid putting fanciful values on this or that feature, and yet to leave a margin for the inevitable "cash discount," without which few sales are accomplished.

When the value of a business has been ascertained and its selling price determined, its advertisement is in order. This should be gone about in a systematic and intelligent way. Instead of attempting to "dead-head" an announcement into his favorite journal, the wise photographer will, from his knowledge of affairs, make up a list of four or five journals which, according to his belief, cover the professional field. He should construct his advertisement with care and see that no advantageous point is left out "to save a quarter." The majority of advertisements of galleries for sale suffer in effectiveness because they leave so much to the imagination of the reader. If advertisers would omit adjectives, such as "finest," "best," "superb," etc., from their announcements and merely insert the prices they get for their work, character of location, and similar valuable points, they would generally get more answers to their advertisements. Finally, in planning to advertise a gallery for sale in these times, put aside altogether the notion that a single insertion in one or five

papers should do the work. Plan for at least three insertions of the advertisements, which should consist of not less than forty words, in at least four papers. This service, secured from the four best professional mediums obtainable, can be had for less than $12, and is well worth its cost. As a rule, twelve insertions of a forty-word advertisement, offering an honest business at a reasonable figure, the advertising extending over a period of three successive months, may be relied upon to produce the desired results; this, of course, if the business is worth the price.

PRACTICAL FORMULÆ.

A Light Filter for All Colors. It is said that with the following light filter and an ordinary orthochromatic plate all visible colors may be rendered correctly, according to their luminosities. The filter should be made with a glass cell one-eighth of an inch thick internally, containing a solution of pure chromate of potash, one part of the salt to 250 parts of distilled water, made slightly alkaline with pure caustic potash or carbonate of soda. To further aid in the securing of correct color values in the plate the development should be carried on in total darkness until the required density is obtained, when a moderate amount of red light is permissible.

A Toning Bath, which gives rich brown-black tones on gelatino-chloride paper, is made up as follows:

Sulphocyanide of Ammonium	30 grains.
Gold Chloride	2 "
Water	16 ounces.

Toning is completed when the darkest portions of the print appear of a chocolate tint when viewed by transmitted light. In the fixing bath the print will take a warm tone, but regains its depth after washing and drying.

A few hints upon the mixing of solutions cannot come amiss in these days of multiplicity of formulas. In mixing a pyro solution first thoroughly mix the acid preservative with the prescribed amount of water, and then pour it over the dry pyro. Cold water should always be used to dissolve pyro. In making up solutions of hydroquinone the hydroquinone should first be dissolved in a small amount of alcohol, and afterward added to the aqueous solution of sulphite of soda, usually advised. When amidol is to be used, the sulphite should be thoroughly dissolved in the water before the amidol is added. In the preparing of metol solution, however, the metol should first be added to the water, and completely dissolved before the sulphite is added. Eikonogen is easiest dissolved in boiling water, but the other ingredients called for by the formula should not be added until the eikonogen solution is cold. With this exception, it is better, in the absence of special instructions, to use cold boiled water in the mixing of developers. In the preparation of toning baths it is wise to closely follow the formula if certain results are looked for. To prepare a tungstate toning bath, for instance, the formula is generally written: Boiling water, tungstate of soda, and gold chloride. Here the tungstate must first be dissolved in boiling water, and when the solution has cooled the gold chloride is to be added.

Toning bath for gelatino-chloride paper giving purple-brown tones: Phosphate of sodium, 40 grains; chloride of gold, 2 grains; water 18 ounces. This bath should be used as soon as mixed, and discarded when more than ten minutes are required for toning.

To Cool Developing and Fixing Solutions during hot weather, where ice cannot readily be obtained, place them in flat trays containing equal parts of ammonia nitrate and water.

An experienced worker claims that by washing a deeply stained pyro-developed negative with a strong solution of washing soda and alum, its color may be changed to that of a negative developed with metol or eikonogen. Whether the risk of dissolving the gelatine film does not offset this advantage is not stated. For our part, we believe that the pyro-developed negative gives by far the finest printing image of any.

Photographers who still cling to pyro as the developer *par excellence* often find that when an ounce of pyro is made up into solution, it often loses its developing power before the amount of solution is exhausted. By carefully making up the pyro solution after the following formula, and bottling it in two-ounce stoppered bottles, it will preserve its full power until the last drop has been used: Dissolve pure sulphite of soda, 4 ounces, in 10 ounces of cold boiled water; add 1 ounce of pyro, and then ¼ ounce citric acid. Keep the mixing bottle corked during the processes of dissolving the ingredients, and bottle up in the smaller bottles as speedily as possible.

Sometimes when the photographer is asked to lend a valuable negative for the production of prints for publication, it is desirable to first make a duplicate negative to hold in reserve, lest the original be damaged or lost. This may be easily accomplished by the following method, which gives a negative directly from a negative. If carefully managed, the duplicate negative will hardly be distinguishable from the original. Make two solutions: No. 1. Le Page's fish-glue, 1 part; glucose, 4 parts; water to make 10 parts. No. 2. Ammonium bichromate, 1 part; water, 10 parts. For use, mix equal parts 1 and 2, and filter. Coat a piece of clean glass with this mixture, drain off all superfluous solution, and dry by heat in a place free from dust. When this plate is quite dry and hot, warm the negative thoroughly, and place the two in contact in a printing frame. Expose in diffused light for five minutes, and then develop the image on the gummy plate by dusting fine plumbago over the surface. When sufficiently developed coat the image with collodion, and immerse the plate in a 5 per cent. solution of sulphuric acid. Now wash until all yellowness disappears, and coat with a thin colorless varnish to hold the film on the glass.

A toning bath, giving beautiful purple-black tones on Solio or New York Aristo papers, is prepared as follows: Acetate of soda, 60 grains; chloride of gold, 2 grains; water, 20 ounces. This bath should be made up twenty-four hours before using; if a little gold and acetate are added after each using, it may be made to serve many months. Prints to be toned in acetate baths must be thoroughly well washed before toning, as the least trace of free silver remaining in the print interferes with its toning.

To Change Blue-prints to Brown. Immerse the blue-print until almost completely decolorized in a bath composed of one ounce of liquid ammonia in nine ounces of water. It is then rinsed and soaked in a weak solution of tannic acid, about one ounce of the acid to fifty ounces of water. The brown tone develops slowly but surely, as long as five hours being required in some instances. Five drops of liquid ammonia added to the acid solution accelerates the operation; when

the desired depth of tone is reached the prints should be thoroughly washed.

AMIDOL gives excellent results used as a developer for matt bromide paper, and the following single solution developer may be used repeatedly: Take amidol, 1 ounce; sodium sulphite, 10 ounces; potassium bromide, 50 grains; water, to make 100 ounces. For use, dilute 4 ounces of this solution with an equal quantity of water. The solution turns color after being made up, but will be found to work well for several weeks.

A Developer for Bromide-prints, giving pure blacks and freedom from the often troublesome greenish tint, is made up as follows:

A.—Metol	400 grains.
Sodium Sulphite	8 ounces.
Potassium Bromide	50 grains.
Water	30 ounces.
B.—Potassium Carbonate	1 ounce.
Water	10 ounces.

For use, take 8 ounces of A to 1 ounce of B.

The easiest way to develop small film negatives cut from a roll-holder is to cut them into convenient lengths, according to the size of tray used, and fasten each length to a piece of clean glass with India-rubber bands. By this method their development is rendered as simple as the handling of glass plates. After development, keep the bands in position, rinse the films in water, and place them in the fixing-bath. The glass support not only keeps the films flat, but permits of examination as often as desired without trouble.

For Short-exposure Development. Capt. Abney recommends the following developer:

Amidol	5 grains.
Sodium Sulphite	40 "
Potassium Bromide	1 grain.
Water	2 ounces.

This developer works best when newly made. The image appears gradually, and attains a good density with fine contrasts in the half-tones. Development should not be hurried.

Frilling. The latest dodge to prevent a plate from frilling during development is to dip a finger's end in vaseline and run it round the edges of the plate before development. Just the merest strip of vaseline around the plate is said to be all-sufficient.

Photographing Buildings When a building is to be photographed, located on a busy street with traffic always in motion, and instantaneous work is not permissible, stop the lens down as far as possible, and make a long exposure. This will be found to give an excellent photograph of the building, without any blurring or signs of moving vehicles to mar the result.

To Make Ordinary Plates Orthochromatic. Ordinary gelatino-bromide plates can be orthochromatized by immersing them for three minutes in a dipping-bath containing a mixture prepared as follows:

A.—Erythrosine	5 grs.
Alcohol	5 ozs.
Water, to	20 "
B.—Ammonia	2 ozs.
Water, to	20 "

For use, take one ounce of each of the stock solutions A and B, and make up to ten ounces with boiled water.

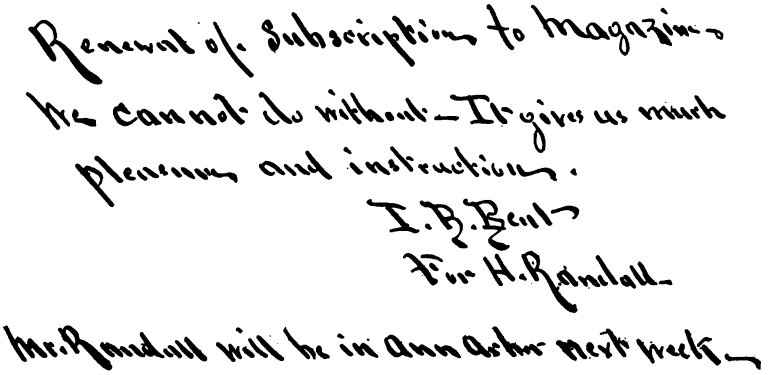
After immersion, the plates must be washed until water runs evenly over their surfaces, and can then be placed away to dry. Quick drying can be effected by soaking the plates for five minutes in a bath of alcohol.

Deep ruby light only should be used for conducting the operations throughout. The treatment is said to increase the general sensitiveness of the plates, as well as conferring orthochromatic properties upon them.—*Amateur Photographer.*

AN EGYPTIAN MOTHER AND CHILD.

THEY ALL WRITE THUS.

To subscribe promptly, cheerfully, and with good words, encourages publisher and editor to do the best that can be done. Here is an example of the generous and fraternal letters which come to help us in our work every day:



[Engraved from the original.]

ITEMS OF INTEREST.

Taber's relief portrait embossing system has been patented in Great Britain and will soon be placed on the European market.

Among the exhibited pictures of British amateurs those of W. Thomas have for years attracted admiration for the beauty and appropriateness of the skies in his land- and seascapes. In a recent interview Mr. Thomas gives his method of procedure as follows: "I make a somewhat slow shutter exposure, averaging 1-20th of a second, for both landscape and sky or seascape, as the case may be. If I can get a picturesque craft in the middle distance of my waterway, so much the better. Then when developing I keep the proportion of pyro down. This gives me a negative somewhat thin and poor, according to the common notion of a "sparkling negative," but in my hands they give very satisfactory prints, especially with the cold-bath platinum paper, which I favor. Should the foreground be so thin as to print quicker than the sky, I mask it by any of the usual methods, or temporarily harmonize it during exposure by moving a folded handkerchief over the printing-frame."

W. A. Beckett.
A SUMMER GIRL.

OUTDOORS WITH THE CAMERA.

BY THOMAS AQUINAS.

E. H. Richards.
AN EAST AFRICAN VILLAGE.

So much has been written about the use of the camera as a means of pleasure outdoors that I fear that what little I have to say can hardly possess the merit of freshness. There is, however, one point about field-work which often escapes the attention of writers on the subject, and a few words about this, with an illustration here and there to "adorn the tale," may be acceptable.

In his last book, *The Elements of a Pictorial Photograph*, that prince of outdoor workers, Mr. H. P. Robinson, says that, when out in the field with photographers, he often wonders whether they get as much enjoyment from their outings as they should do. I venture to suggest that they do. Mr. Robinson seems to imply, and the idea implied is getting to be very common nowadays, that the only real pleasure in a field-day with the camera comes from the getting of pictures which will win the approval of critics—especially those of the Salon kind. With a profound respect for Mr. Robinson and his worthy brethren of the "Linked Ring," I cannot help thinking that this view is somewhat narrow and arbitrary.

Of course there is great satisfaction in making a picture for which maybe one has prepared and made many sacrifices, as when one watches and waits several seasons to get a flock of sheep grazing in just the right spot, with sun and clouds overhead in fine pictorial frenzy. Such a picture Mr. Robinson secured in his "Storm Clearing Off," which appeared in the April, 1895, number of this MAGAZINE. It is a masterpiece, and worthy of the highest praise. But how few of ordinary mortals have the skill and leisure which enable Mr. Robinson to make such pictures? There is, however, a lot of pleasure in getting mere pictorial records of places visited or known beauty spots, by which we may renew pleasant associations or memories.

W. M. Morse.
FOREST FALLS, SAXTON'S RIVER, VT.

To the majority of us, field-days are like angels' visits, few and far between; and

when they come, one is inclined to enjoy them as simply as possible, exposing a plate now and again as one's fancy is tickled, without bothering to inquire whether the view "composes" or does something else to commend it to posterity, or whether we had not better try it again in the early autumn or late spring.

So much depends upon the mental point of view, as far as the pleasure of a photographic outing is concerned. The opportunities for field practice are so few, and the limitations of time, locality, and ability are so many, that with the average man the enjoyment of a day afield depends largely upon the free use of the material at hand, photographic and pictorial. Hence I direct this paper to the helping of those who have only an occasional day with nature and the camera, and have no more ambitious desire than to make the best of whatever "turns up."

The pictures accompanying these notes were chosen as representing the class of work usually obtained under such conditions. While there is little of the Salon quality about any of them, there is evident

W. M. Morse.

HIGH WATER AT BELLOWS FALLS, VT.

W. V. Alford.

A PANAMA GARDEN.

in all an appreciation of the picturesque in nature, and here and there even a laudable effort has been made to secure pictorial effect. Of the men who made them, and of the circumstances attending their production, I know just sufficient to enable me to say that genuine pleasure was had in the field-days of which they are the result.

O. Von Bargen.

SUNSET.

O. Von Bargen.

SUNSET.

I suppose we may take for granted that in all outdoor photography undertaken for pleasure, be the limitations of time and locality what they may, pictorial effect is recognized as desirable. The question generally concerns how to secure this in the subject at hand without extraordinary trouble. It is unnecessary to mention here the innumerable ways by which pictorial effect is secured. They are clearly dealt with in Dr. Wilson's *Quarter Century in Photography*, with which you are

doubtless familiar. For our purpose it will suffice to give attention to the three or four primary elements which contribute toward pictorial effect, such as the selection of the point of view, the treatment of foreground and sky, and the proper emphasis to be given to the centre of interest.

Of these, the chief element of general importance is the selection of the point of view from which the picture is made. We must be guided by the impression received from the scene, and by the idea we seek to convey in the picture. The little engraving of an "East African Village," from a photograph by Rev. E. H. Richards, will illustrate this point. The idea here was to present a characteristic view of a village such as one finds in the Zambesi territory, generally built in a clearing surrounded with a natural stockade of trees. The materials at hand have here been cleverly disposed for pictorial effect. The line of highest light leads the eye along the points of chief interest; the direction of the light was taken advantage of to produce the long-slanting shadows which convey the idea of repose and breadth, while the trees in the foreground give a sense of stability and relief, helping also the effects of perspective and distance.

In the view of "A Panama Garden," by Mr. W. V. Alford, the point of view has not been so happily chosen. Probably Mr. Alford was distracted by the introduction of figures in the scene. The juxtaposition of extreme light and dark, formed by the river and projecting bank, is unpleasantly near the centre of the scene, while the placing of the figures further confuses the eye. By leaving out the figures and exposing two plates upon the scene, one upon each half of the view as here shown, and by including a much smaller amount of unbroken foreground in his pictures, a much better pictorial rendering of the scene would have been obtained.

C. E. Crane.

SNOQUALMIE FALLS.

The treatment of the foreground comes next in order after the selection of point of view. Broad, unbroken expanses of foreground are of course to be avoided, as also are foregrounds strongly marked with lines (roadways, fences, and the like), running out of the area of the view or diverging

from the centre of interest. Sometimes these defects, present in nature, may be easily remedied. Look at Mr. W. B. Stover's picture, "A Hot Day." Never mind the motif, simply observe the masses

W. B. Stover.

A HOT DAY.

of light and dark and the lines deliberately introduced to secure pictorial effect. What would the scene be without the cattle and the broken reflections in the water which they give? Notice also how the strength of the foreground objects makes the rest of the scene seem to recede, and prevents the eye from wandering too persistently over the horizon-line, which would cut the view in twain save for the varying tree-line and the lazily floating clouds in the sky. Mr. Stover made excellent use of his material, and has well-expressed the idea he intended to convey. The same care is evident in the make-up of "A Trysting-place," another of Mr. Stover's pictures.

The sky, as an aid to pictorial effect, is hardly sufficiently appreciated when it is remembered that quick plates and light filters enable one to secure both cloud and landscape on the same plate. The sky is really the keynote to the scene, everything in it receiving its expression therefrom; it is the natural background of the picture, throwing out and relieving the salient features of the subject.

Its treatment depends upon the circumstances, and therefore varies. If it forms but a small part of the picture, as in "A Panama Garden," "Forest Falls," or "High Water at Bellows Falls," little needs to be done at the moment of exposure, save to lift the lens-cap as if hinged, in such a way that the sky receives less exposure than the landscape. In the prints from such negatives, however, even where the sky is veiled by intervening foliage, as in "A Panama Garden," much can be done to make the sky lend animation or repose to the scene by softening or heightening the intensity of the sky at various points as taste indicates.

In views, such as Mr. Crane's "Snoqualmie Falls," it is generally sufficient to lighten the sky a very little just at the horizon-line. This may be done on the back of the negative, or even during the printing.

Where the sky forms the picture everything else should be subordinated, the definition and tone-values of the immediate foreground being suppressed to give greater effectiveness to the real motif of the picture. Mr. Von Bargen's "Sunsets" illus-

trate this idea, although they cannot be regarded as faultless in other directions.

With regard to the emphasizing of the chief point of interest, it is difficult to suggest the best methods of procedure without going to great length of explanation. As a rule, the centre of interest should not be placed in the exact middle of the scene, especially if it receives the highest light wherever it be placed, but generally a little to the right or left of the middle, as in "Snoqualmie Falls." The other features of the view should be so disposed as to lead the eye toward it, and subordinated in lighting, detail, and definition, so that they do not distract the attention from it. Here, chiefly, it is that Mr. von Bargen has erred in his otherwise admirable "Sunsets." In each case he would have gained more pictorial effect had he waited until the sun had been nearer the horizon. In doing so he might have lost his "Sunsets," but the cloud effects would not necessarily have been less pictorial. The placing of the highest light—and the chief point of interest—at almost the exact centre of each picture also detracts from their effectiveness.

Among the most difficult subjects which are encountered in a day's outing with the camera is the photographing of a fairly wide range of flat country. It may be a bird's-eye view of a town situated in a valley or low-lying stretch of land between two hill-ranges, or a garden running down toward a creek. Such work calls forth all the resourcefulness of the mind behind the camera.

One of the best ways of dealing with such scenes is to secure a point of view which offers the advantage of a clump of trees in the near foreground, enclosing the desired locality and offering contrasts of light and shadow. Oftentimes a picturesque fence or hedge will supply the help needed to give relief and character to the scene. An old master in landscape, with whom it was my good fortune to enjoy many pleasant outings, made it his invariable practice in such cases as these to secure a screen of foliage on all sides, getting thereby effects of lighting and atmosphere, which, instead of distracting attention from the view photographed, added grace and harmonious expression. By this simple device one may often get a picture where, ordinarily, the result would be a mere topographical view. So much, as I have said, depends upon the point of view, *mental as well as pictorial.*

W. B. Stover.

A TRYSTING-PLACE.

A SINGLE SLANT-LIGHT STUDIO.

Kupper.

THIS IS THE WAY THE LADIES RIDE.

THERE is every indication that the advances being made in portraiture will be accompanied by a revolution in studio construction. In Chicago and the West, according to the *Pointer*, the familiar side- and top-light studios are disappearing, and the new single slant-light is being substituted with general satisfaction. Chicago alone has over fifteen studios modelled upon this plan, and some excellent work shown at the conventions, together with approval given to the slant-light at Celoron, seem to point toward its universal, though gradual, adoption by the fraternity. The advantages of a single side-light (dispensing with the skylight proper) have long been recognized. Mr. H. P. Robinson some years ago advocated such a light as theoretically perfect for portraiture, and in the October, 1891, number of this MAGAZINE we pointed out that the skylight could be dispensed with by carrying the side-light up to a good height. As now proposed, the side-light is slanted or inclined inward at the top, this modification being found necessary to admit sufficient

KUPPER'S SLANT-LIGHT STUDIO.

light to the portions of the studio remote from the side-light. When the first slant-light studio was built some conservative workers doubted its usefulness for group work and other similar branches of studio practice. It has been well proven, however, that the new form meets every requirement, and some fine groups have been received from photographers who have adopted the slant-light in remodelling their studios.

Among the first of the Eastern photographers to use a single slant-light was Mr. L. V. Kupper, Edinboro, Pa., a man of much enterprise, who has worked his way up in the profession by dint of progressive reading and working. In response to our inquiries concerning the results ob-

L. V. Kupper.

A GRADUATE.

tained from his light he very kindly sent us full particulars, and these, with engravings of some of his recent work, we present herewith.

The construction and arrangement of the single slant-light is made plain in the engraving of Mr. Kupper's studio. The design is extremely simple and its advantages obvious. There can be little danger of annoying leakage with such a light, nor will it hold the snow which worries the photographer in winter. The troublesome systems of curtaining and screening, with the numerous wires and ropes incidental thereto, are likewise rendered unnecessary.

L. V. Kupper. THE MODERN PRISCILLA.

The Kupper studio is located on the second floor of the building. The light, which faces due north, is thirteen feet square, purposely placed in the middle of the side of the room to allow both ends of

the studio to be used. It begins at two feet from the floor and inclines inward five feet at the top. On the opposite side of the room a reflector is hinged to the ceiling, adjustable to any angle. In order to cut off the late afternoon sun, a white muslin curtain is stretched across: the light extending from the base to a height of nine feet. For bust pictures a small movable dark curtain is hung between the sitter and the light. Ordinarily neither of these curtains is employed, the side-light, head-screen, and reflector being sufficient for all the usual light effects. Nine feet from the floor two muslin screens on wood frames run along wire carriers. These are useful to cut off the light reaching the sitter through the upper portion of the side-light. Usually their use is not desirable. If the side-light is glazed with ground-glass they would be quite unnecessary. Mr. Kupper, however, uses his studio for printing purposes in wet weather, and hence his light is glazed with plain glass. As official photographer to the Normal and High Schools of his town, Mr. Kupper has already had abundant chances to test his light for every kind of work, and he is well pleased with its performance for large and small groups, figure compositions and ordinary portrait work. The various examples of work throughout this notice, although Mr. Kupper says "they are by no means as good as the work I intend to do later," fairly attest the practical value of the new light and his skill in handling it.

L. V. Kupper.

THE BOTANY CLASS AT WORK.

The operating-room itself covers 22 by 36 feet, connecting by folding doors with the reception-room, which measures 24 by 30 feet. The door shown at the left in the engraving opens into the commodious dark-room, 9 by 10 feet, where the negative

work is done. On the same side are the toning- and washing-rooms, while a large finishing-room occupies the rear end of the floor. When used for printing lines of wire are stretched across the light to hold the printing frames, about thirty-six in number. Of the advantages of the slant light for printing purposes we hope to have an account in a future issue. The gallery was originally built, with the slant light, about ten years ago by a photographer since dead. The man who occupied the studio previous to Mr. Kupper apparently did not understand the light, as his work seems to have been hardly average in quality.

In the letter giving these details Mr. Kupper contrasts his present comfortable quarters with the studio in which he has until now built up his business. The whole space covered by the latter was only 12 by 36 feet. The studio was fitted with a small side- and top-light, and the accommodations for working were correspondingly limited. All the water required in various departments had to be carried from a neighboring well. When the well ran dry, a creek situated over 500 feet from the building was the nearest available water-supply.

Notwithstanding these difficulties and limitations Mr. Kupper has not only steadily advanced in his portrait work, but has given profitable attention to landscape and general outdoor work. During the past few years we have had genuine enjoyment in looking over the results of his field days, and watching his persistent progress in the endeavor to excel what had already been accomplished.

His portrait work, as well as the many beautiful landscapes and examples of figure composition received at various times, show a serious and continuous effort to secure feeling and pictorial effect. At the same time simplicity and naturalness are the chief characteristics of his work.

The paper on "My Aims and Methods in Landscape Work," as well as the reproductions of outdoor scenes by Mr. Kupper, which appeared in our April number, are worth looking up. We wish him all the success he desires and strives so faithfully to deserve. His last letter contains the following: "I think the July number of the MAGAZINE exceedingly valuable to the earnest portrait worker. It seems to touch his needs at every point. Anyone who will read it and carefully study the abundant examples given in the text can hardly fail to improve in his work. That issue alone has been worth more to me than the price of the year's subscription. I am working hard for better and more artistic results. If I could only get what I see! But there I find the pleasure of the work: in the effort to secure that which attracts one all the more as it constantly eludes us —the ideal."

As a further help to those directly interested in the single slant-light we append the details concerning the new studio of Place & Coover, of Chicago, as given in the *Pointer*:

"The operating-room is forty feet long by twenty-two feet wide. The ceiling proper is twenty-two feet high; the side light is fourteen feet wide, and starts at three and one-half feet from the floor. The top of the light is twenty feet from the floor, and comes into the studio only five feet, thus making a *very* steep light. The glass used is known as hammered ground-glass, is about one-fourth of an inch thick, is of American make, and costs about fifteen cents per square foot. The lights of glass in the side-light are two feet wide by four and a half feet long. Another glass, which is equally suitable, is known as ribbed cathedral glass, and costs about the same. In purchasing either of these makes of glass, it is advisable to carefully observe that no yellow or green colors are furnished. By having it carefully selected, a pure white can be readily obtained.

VARIETY IN THE TREATMENT OF THE SUBJECT.

WHAT a wonderful thing that school at Celoron was! In the labyrinth of photographs on exhibition we saw variety of subject, but only the selected successes of each variety; rarely was there shown more than one pose of the same subject. In the school we saw variety in the treatment—the same subject posed again and again, the merits and faults of the pose being pointed out as the changes were made. Many and profitable were the lessons gained from the competition pictures, but the practical teaching was found in the school, where we saw the actual making of the successful pose.

It seemed to one watching the kaleidoscopic changes taking place under the school skylight that the method of instruction there put into practice filled a very long-felt want. Among the difficulties most keenly realized, when we look to the work of others for our own improvement, is the lack of more than one example of the treatment of a subject. We see the finished result, and may be it has its useful points. But always there is a desire to see the results of the other sittings from which the selected picture was chosen. We want to see other poses of the same subject, that we may profit by the half successes and failures by which the artist reached the success he so proudly exhibits.

It is difficult to get a set of pictures of the same subject; difficult to get a photographer to make the requisite effort and consent to the criticism of his pictures for publication. He would, naturally, rather make one good picture and have its praise spread abroad by the magazines. We have secured a set of eight pictures, made for our purpose by Mr. J. D. Brinkley, of Oxford, N. C., who generously consents to their publication and criticism. He deserves the thanks of every ambitious portraitist for his substantial assistance. Of the various conventional styles in portraiture the full-length figure is admittedly the most difficult of successful accomplishment. At the convention good bust, half, and three-quarter-length pictures could be counted by the score, but the really good full-length figures were few and far between. There are several reasons accounting for this apart from the general appreciation of the difficulties in the work. The style is one which is not suitable for many people, such as long and thin, or stocky and fat persons. Indeed, the most promising sort of subject for the full-length figure is precisely that chosen by Mr. Brinkley for these picture-models.

The technical requirements of full-length figure-work are few but important. We must have ample length of studio to obtain true drawing and perspective. The width of the operating-room must also be sufficient to permit of the subject being placed away from the side-light, so that softness of illumination, freedom from harsh contrasts, and good tone values may be secured. Whatever be the system of lighting employed, whether by cutting off or curtaining, or by screens and reflectors, it must be well under control. The lens should be of as great a focal length as is needed to prevent foreshortening or distortion. In posing the subject the leading idea should be simplicity, naturalness, and freedom from straining for "artistic" effects. In lighting the principal fault to be avoided is the flooding of the subject with too wide and brilliant illumination, a defect which kills the pictorial value of nine-tenths of the figure-work produced to-day. The background and accessories, contrary to the general practice of our time, should be rather darker than lighter in tone than the general tint of the draperies of the subject,

and should be chosen for their simplicity and appropriateness, as adding to and helping, rather than detracting from the effectiveness of the subject itself. Espepecially is this applicable when we have to deal with light draperies or dress materials which reflect and spread the lights. Here, as Burnet points out, the masses of detail, which over-abundance of light emphasizes and makes more prominent than they naturally are, should be sunk in the principal characteristics of the subject, the idea being to present in the picture not a feeble catalogue of particulars, but a comprehensive expression of the whole.

With these preliminary notions well in mind, let us look at the eight pictures Mr. Brinkley has prepared for our mutual profit and which appear, engraved, upon one sheet as our frontispiece. It is apparent at a glance that mistakes have been made in several important details, made purposely to aid us in illustrating our theme. The illumination is overwhelmingly strong, there is too much light everywhere. The details of each picture are so painfully evident that it is only with difficulty one is able to isolate the chief point of interest—the figure. Not until the photographer is master of his light, and knows when to give it play and when to suppress it, can he hope for success in figure-work. If we could take these eight pictures and throw a gray wash over the grounds and accessories of each, we would at once perceive how over-illumination—too broad light effects and a lack of shadows—may ruin an otherwise successful piece of work. It is dangerous to attempt to work out a picture in too high a key. We see too much of this every day. It should be borne in mind that only when we portray sunlight effects outdoors is this method permissible. Under the skylight diffused light, well under control and compensated by a generous use of transparent masses of dark, offers the safest road to success to the photographer. To the appreciation of this fact is largely due the advance in pictorial portraiture apparent at the Celoron exhibition. It is illustrated also in the sixth picture of the series before us, which impresses us at once as the best all-around result obtained by our photographer.

Another important point is the predominant line of the composition. Broadly speaking, sharp angles and a too continuous straight or oblique line, unless carefully balanced, should be avoided. The line of beauty requires a curve. Care should be exercised also to prevent repetition in line, unless the repetition is properly introduced to emphasize a predominating feature, and then it should be subordinated in value. Wherever you have several lines of equal strength or continuity there will surely be a confusion of interest in the composition. Look at the first picture of our series, and contrast the awkward stiffness of the figure with the grace and action so pleasingly expressed in the upper half of the figure in the seventh picture. The lesson is obvious. To help number one remove the chair altogether, throw out the lines of the cape by bringing the arms to about the pose secured in the seventh picture, and break the long lines of the skirt into more graceful folds.

The third picture shows the result of a total disregard of the power of line. It is a pose which should be remembered as one never to be chosen. It is angular, distracting, and altogether weak. If the back of the obnoxious chair had been cut off behind the shoulders of the subject, the figure brought round a little to the left, and the hands rested in the lap, where they would naturally fall, we should have obtained a pleasing picture. Now look at the seventh picture of the series. It has many good points, and the upper half of the figure could hardly be improved. But observe

how the composition is divided into angular parallelograms by the lines introduced. Draw an oblique line along the right side of the figure, another along the centre at the left side of the face down to the foot, and a third along the back of the chair. Now cross the picture with lines along the top of the head and chair, the arms and the middle rail of the chair-back, and a third along the bottom of the dress and the rockers of the chair. Every line demands the attention and adds confusion; but if we make a black cut-out matt to cover all the picture except the head, bust, and arms of the subject, we obtain a charming portrait. Of the side-rail of the chair-back, which seems in several of the pictures to grow like a horn from the shoulders of the model, nothing need be said. It is a fault arising from the use of an accessory inappropriate to the pose in each instance.

A word about simplicity and we are done. If we desire to get feeling in a figure composition, the safest and easiest way is to avoid elaborateness of effect. In the effort to express too much every desirable quality is often lost. Simplicity in the lighting, in posing, and in the choice and use of accessories will give the charm of grace to the picture; it is in the effort to introduce pretentious elaboration in these details that failure comes. Contrast the fourth picture of our series with its immediate predecessor; in the former we have ease and naturalness, although the inner lines are bad and the lighting too broad; in the latter a forced and ungraceful pose, harsh lines, and hopeless confusion, although the lighting is well managed. Finally, observe the singleness of idea running throughout the sixth picture, the ease of the pose, the action so naturally expressed, the happy poise of the head, and the clever arrangement of the lines and masses of light and dark, by which the maker of the picture secured a pleasing portrait, creditable alike to his subject and himself.

Our graceful and amiable model is represented as well fatigued in the eighth picture and yet there are some lines of grace and beauty there which supply subject for much study. If thought has been started our duty is done. The work is endless.

A REDUCING AND TONING AGENT FOR TRANSPARENCIES.

Now that the season of holiday making and outdoor photography draws to its close the production of lantern slides and transparencies will soon occupy the attention of many of our readers. As is well known, nothing so enhances the beauty and charm of either lantern slide or transparency as its color, but it is not always easy, when the developing and fixing are completed, to secure a good tone by after-manipulation without impairing the technical qualities of the plate.

Some days ago we were pleasurably surprised to receive a couple of whole-plate transparencies, rich yet delicate in tone, from our old pupil and friend, Mr. John Bartlett, whose excellent articles our readers will remember as appearing in this MAGAZINE a few years ago. Accompanying the plates came a letter from Mr. Bartlett, in which he refers to the formula and manipulation which had helped him to secure the beautiful results we admired. We quote from his letter for the benefit of all concerned:

"I send you to-day two transparencies which may interest you, inasmuch as I employed in their production a new reducer or toning-bath, which, as far as I know, has

not been recommended before. The perchloride of iron and citric acid, which I advised a few years back, is a good reducer, but acts so vigorously that in inexperienced hands its action sometimes proceeds too far before it can be checked. This new reducer is much slower in action, always controllable, and gives admirable tones. In the sepia-tone transparency sent the reduction has purposely been carried far to show the action of the bath. Personally I like this color, and even the slight opalescence does not detract from its attractiveness except for lantern slides. Others may prefer the purplish-black tone which is obtained by only slightly reducing the original intensity of the plate. Quite a range of tones may be had between sepia and purple black.

"The bath, which may be considered as a reducer or toning solution as desired, is made as follows:

Iodide of Iron (in solution)	1 drachm.
Iodine (alcoholic tincture)	4 or 5 drops.
Water	6 ounces.

"The free iodine acts as a restrainer over the too vigorous action of the iodide of iron. The plate may be reduced immediately after fixing and rinsing, or when thoroughly washed."

NEWS AND NOTES.

Trade News, monthly, at $1 per year, is the title of a new photographic journal published by W. D. Gatchel's Sons, Louisville. It is a bright, well-printed little journal, conducted on the lines of the *Professional Pointer* and devoted largely to the advertisement of Messrs. Gatchels' specialties.

At the British Convention Mr. Alex. Haddon stated, as the result of careful investigation, that five minutes' thorough washing is sufficient to remove all traces of hypo-soda from gelatino-chloride prints, while fifteen minutes suffice for albumen prints. Further washing, he claimed, is destructive alike to the appearance and permanency of the prints.

Those who confine themselves to pure landscape work, with an occasional attempt at home portraiture, should investigate the merits of the single lens for these classes of work. A comparison of the results obtained with a single lens with those obtained with the doublet lenses now so universally used will surprise many who have never tried the experiment. Having fewer reflecting surfaces, single lenses give a peculiar crispness to the shadows which can rarely be secured with a doublet. They also possess marked depth of focus, and a freedom from flare which gives their work a very desirable quality. Distance, especially when it includes hills, is rendered more faithfully with a single than with a doublet lens.

F. P. Cembrano has been elected to succeed H. P. Robinson as President of the British Photographic Convention for the ensuing year. The convention, which is to meet in 1897 at Yarmouth, on the southeast coast of England, has about 300 members and a balance of $635 to its credit. At each of the excursions to York and Fountains Abbey, prominent features of the convention just closed, over 1000 plates were exposed. Evidently British conventioners are more addicted to the hand-camera habit than their American brethren. With the exception of the President's address, given in part elsewhere, the papers read before the convention contained little of direct interest to the professional photographer.

PHOTOGRAPH.

Mummified Hand of an Egyptian Princess, obtained near the Tombs of the Kings, Thebes, 1892.

RADIOGRAPH

of same, made in the Laboratory of the Keystone Dry Plate Works, on a Carbutt X-Ray Plate, by John Carbutt.

The hand is believed to be between 3000 and 4000 years old.
Half-tones: Etched using Carbutt Process Plates.

A ROMANCE OF RO-ENT-GEN-RA.

BY EDWARD L. WILSON.

ALL along the lines of rugged cliffs which rise from the sands west of the Plain of Thebes are dark somethings which, to the approaching tourist, appear like the port-holes in the sides of a ship. These are the entrances to the "Tombs of the Kings" and many others. New ones appear every little while when the drifted sand gives way and rolls down the great incline which falls toward the plain, or is sent flying Nileward by the wind. The Arabs, who live in the villages and in the tombs near by, are always watching for these new appearances, for they are apt to present an opening for traffic in such objects as are usually found in a tomb that has long been hidden. Three brothers, named Abd-Er-Rassûl, dwelt in old tombs near Thebes, in 1881. They were "dealers" in "antiques." It is against the law to rob tombs, so they made expeditions to the top of the cliffs, and tunneled down into the tombs "the back way," and thus worked on the sly. Occasionally, however, as I have already intimated, the shifting sand would reveal a new front door. What occurred there one morning, therefore, was perfectly natural, and caused no surprise in the Er-Rassûl families. It was this: A gang of their naked little children was playing in the sand, when suddenly one of them passed out of sight. Out of sight, I say, suddenly —as suddenly as an egg passes from the back of the hand of a Cairo street fakir to—nowhere. A scream from the rest of the babes brought the three or more mothers out of their tomb-homes at once. They were not frightened, however, for they had had similar experiences. But they were much troubled for reasons that you would not suspect. Was it an alligator? No! Had a hyena snapped up the child and carried it into a tomb to devour it? No. Was the dear little baby hoodooed away? No. None of these. In running from its playmates it had tripped up in the sand and fallen into a "new" tomb—out of sight. That was a fortunate misfortune and a bad go. The mothers, arriving at the scene of the catastrophe made effort to rescue the child, but as it was beyond their power to do so they concluded to let it go, as it was "only a bint" (a girl). When the father of the child came home, however, the tender-hearted mother, relenting, secretly told the tale of woe to him. He grieved for the loss of the child, of course; but he was worried more about giving up the chances of a big "find" possible in the tomb that the child had discovered. So excavations were made during the night, and the little Hy-Po-Fix was rescued. In her little fist, when she was found, she held, tightly clasped, the hand of a mummy, thus showing herself to be a true child of her father. The hand was of delicate proportions, covered with burnished gold, and almost closed, as though death had arrested its vitality while it was touching the tendrils of a harp; or while holding it out to be kissed by a slave; or else when held in supplication to a deity. That it was the hand of a princess there could be no doubt, for, as I said, it was gold-covered. To make the story short, it led to the discovery of a richly-furnished tomb containing a number of royal mummies and abundant paraphernalia. The hand was hidden by the child's father. For the rest of the treasures the three brothers were compelled by law to consent to what bargain they could with the museum authorities at Gîzeh. When they made oath, as required, that they had "given up all," one after the other, they said "Iowah"

(yes), "Allah! be praised—*all!*" But Ananias Er-Rassûl, he lied, for he had hidden and held back the golden hand of the princess. Year after year he surreptitiously tried to sell it, but he valued it too highly, and no sale was made. As the years went on he grew more and more nervous over his secret, and his health began to fail. The fear of discovery almost consumed him. Sleep forsook him, and at the risk of being attacked by the jackals he walked the night in terror. One morning Allah sent him release. A party of young Americans took it into their heads to leave their steamer at Luxor and make an excursion over to the Plain of Thebes to listen to the charming notes sent forth at sunrise by the colossal Memnon. Ananias saw them at a distance, and, running through the dewy fields of lentils, overtook them at their objective point. After the concert was over, in a low whisper he offered the tormenting hand to one of the fair young ladies of the party, who, by-the-way, is the daughter of a gentleman well known in our craft. The price was "too high," and she offered lower. He grew nervous and desperate over her persistency. She became all the more firm, and held her "price" out toward him. Finally he threw the golden hand at her; screamed "*give it;*" seized her money, and disappeared as suddenly as did the fakir's egg and the child. At first the gentle purchaser felt that she had made a fine bargain. But after she brought her treasure home she heard stories repeatedly of "how these things are manufactured." "It is a modern make-up," said one comforting friend. "It is but a mass of pitch mixed with pieces of refuse mummy-cloth, with new finger-nails stuck in," said another expert. This somewhat disgruntled the owner of the "genuine hand of an Egyptian princess," (which in fact was between 3500 and 4000 years old), and she prized her purchase less and less as the years went on. Reading of the discovery of Radiography, by Professor Roentgen, she learned, too, that while the x-rays pass through glass with difficulty, they would ignore pitch as if it were but so much air. This caused her to soliloquize thus: "If this hand is that of a mummy, the x-ray will reveal the bones within its grasp; if it be only pitch, there will be no "find" of bones. Let us make the test."

And this is the sequel of our story: The hand, bereft of its golden covering, was carried to Mr. John Carbutt. After securing a regular photograph of it, he made a Radiograph of it upon one of his x-ray plates. All doubt was now removed, all Darwinian theories were subverted; for there were the bones inside the mass of pitch and perfume and delicately woven fabric and dried human flesh, in full number, just the same as yours or mine. Here are half-tones engraved from the two negatives in verification of what I have recorded.

They afford the most interesting subject yet caught by Radiography. The x ray has thus been made to go back further than it ever went before, and has opened up chances for a new industry. It is all very wonderful. Is it the hand of Ma, the daughter of Ra? or of Nepthys? or of Safekh? or of Muth? or of the daughter of Pharoah? That the x-ray does not tell.

THE NATIONAL PHOTO. PAPER AND CHEMICAL CO., Springfield, Mass., met with a bad delay, August 10th. The upper portion of their new mill was destroyed by fire. Nevertheless, at 4 P.M., Wednesday, the insurance was adjusted, and at 6 P.M. a contract for rebuilding was let. Rebuilding of special machinery began on Saturday. This is quick work and characteristic. Particulars later.

OUR PICTURES.

THE pictures which appear as insets in our current number hold a wonderful sight of interest and teach many useful lessons. The frontispiece—eight positions, all of the same lady—by Mr. J. D. Brinkley, serves as the illustration of the article on page 413, upon "Variety in the Treatment," etc. They again start up rather a fresh topic, or rather thaw out one that seems to have been frozen out of sight for some time.

"Watching the Game" is likewise a seasonable picture, and is one of the happy efforts of Mr. Spencer Judd. Pictures of young men are offered all too seldom for study. Such subjects make up a large part of the work of every studio, and there is room for improvement in the management of them generally. A fine-looking manly youth will reward the photographer's pains-taking about as satisfactorily as any other class of subject.

The "Egyptian Mother and Child" provides an Oriental study which is full of character and shows us "how the babies ride" in the Cairo streets. Hoisted astride its mother's shoulder and provided with a foot of fat sugar-cane, the young Pharoah will rest content, and, like a true fatalist, endure the swarm of flies which attack his eyes and nose, without a murmur. A fine bit of Arabian lattice-work has been made to serve as the background of this charming group; and the fact that the older woman spying through the tiny window wears a face-veil proves her to be a Mohammedan of the strictest sect.

In harmony with this last picture comes another radiographic sensation from the indomitable Mr. John Carbutt, who has done so much for progress and perfection in x-ray research. As the story of the "Mummified Hand of an Egyptian Princess" is told on page 417, no further reference to it is necessary here, except to note the excellence of the work throughout.

Mr. Carbutt will send some most interesting literature concerning Radiography and his methods, free to all applicants. He is acknowledged to be the chief authority on such matters.

CHAPTERS ON PORTRAITURE.

EXTRACTED FROM THE RARE AND VALUABLE TREATISE ON "PORTRAIT PAINTING," WRITTEN BY JOHN BURNET. PARAPHRASED AND CONDENSED FOR THE GUIDANCE OF ADVANCED WORKERS IN PHOTOGRAPHIC PORTRAITURE BY JOHN A. TENNANT.

(Continued from page 303.)

VI.

HAVING now surveyed portraiture from a general standpoint, we may with advantage investigate the particular principles upon which it is based, beginning with the features in detail. The peculiarities of the mouth should first be noted, not that it is of more importance than the eye, but because from infancy to age it undergoes greater change than any other feature, and is at all times characteristic of individuality. In children the form of the mouth is rotund, with a hollow in the centre of the lower lip, and a depending peak in the upper one. The growth of the teeth and the alteration of the muscles produce an elongation of the mouth, until it finally assumes the form designated by the Greeks as cupid's bow. The change from youth to old age is a gradual alteration

from full-curved lines to dry straight ones. In portraits of young women and children Reynolds used to slightly open the mouth, so obtaining a shadow between the parted lips, which gave softness of character to the feature and emphasized its delicate form. The outer corners of the mouth are points deserving of great care in their portrayal. In the antique we find the Greeks marked the termination full and soft, which, compared with the treatment of the Egyptians, who inclined to severity in lines, gives a much higher character to the personality of the sitter.

VII.

Next to the mouth and of equal importance is the eye. This organ is slower in changing its appearance, and alters less at the different periods of life than the other features. The greatest alteration from infancy to youth is in the inner corner; from youth to old age in the outer corners, over which occurs the constant movement of the muscles of the upper and lower portions of the face, hence the production of wrinkles and markings. In the delineation of this organ must be borne in mind the delicate variety of outline, the lustrous brilliancy of the high light brought in contact with the dark pupil, and the thin thread of watery fluid trembling within the under eyelid, uniting the most elegant arrangement of form and chiaroscuro with the utmost delicacy of finish. To soften the harsh lines often observable about the eyes of old people, a muslin screen placed between the source of illumination and the face will produce, if properly managed, the most delicious gray and pearly tones over the shadows, changing the harshness into softness with sufficient character. In the portraits of Titian we see the greatest breadth and the dignity in the countenance. For example, in his treatment of the eyes, the pupil is made to merge into the outer line of the iris, which gives bulk and fulness of form; the upper and lower eyelids are extended by shadows almost to the eyebrows, the darks of which are carried out by union with and dependence on the line of shadow encircling the hair, thus making the extreme boundary of every feature its line of definition. This treatment of course is applicable to some only of the various subjects with which the portraitist has to deal. Generally speaking, the shadows about the eyes should be so disposed as to harmonize the features of the upper portion of the face, such as the eyebrows, cheek-bones, and the contour of the brow, which harmony may be studied especially in the portraits of Vandyke. The drawing and outline of the nose, as to its point and nostrils and their union with the upper lip, may also be studied with advantage in the portraits by this master.

VIII.

The ear, though not an intellectual feature, is yet an organ of great beauty, both on account of its elegant assemblage of lines, and those convolutions contrasting, yet harmonizing, with each other in a way so congenial to our idea of grace. The ears of children are rounder than those of adults, and less marked by hard cartilaginous portions. In portraits of women it is important to see that the ear conveys the natural idea of charm which is generally seen in the original. In this detail the portraits of Vandyke are unsurpassed.

When one side of the face receives the chief light the ear should be carefully modelled and illuminated to make it contribute grace to the portrait; the ear on the shadow side of the face should, on the other hand, help in the merging of the outline of the head into the surrounding shadows, and hence should be subordinated in its treatment. Except where it receives brilliant illumination, this feature should

generally be left devoid of extreme finish, the principal parts only being emphasized, and the minor parts kept subservient.

IX.

One of the essential stages of the education of the portraitist is that devoted to the close study of the works of master portraitists, his observation of the human figure as it is in life and in the statues and pictures left to us by the Greeks and others down to our time. In this he will receive a knowledge of the true elements of the portrayal of character—of the substance and essence of the individual—what is homogeneous—what is discordant—what is deformity and what beauty. The study of casts from antiques is therefore advised as to be taken up before the attempt is made to portray life subjects. To gain all possible advantage in this the student should copy by hand the best examples of the works of the early masters, so that he may gain a true knowledge of their mode of treating the subject in the arrangement of form and light and shade. After this when he handles the living subject under the light he will find himself able to recognize what should be emphasized and what subordinated in line and chiaroscuro, to the proper portrayal of the subject. The character of unaffected ease and natural grace imparted by Sir Joshua Reynolds to his portraits of men and women he acquired from his study of the actions of children, of whose habits he was a constant observer. In the portraits of Velasquez there is to be remarked a broad manner of laying out the head, and a certain squareness in the handling, by which he secured firmness and dignity in his subjects. This we may obtain by introducing dark shadows under the eyebrows, not permitting them to reach the under eyelid, but passing softly over the eye, enabling the high lights to tell without disturbing the agreeable expression under the eyelid. This also prevents the nose from appearing too short, and, if the height of the sidelight is properly considered, a desirable distinction between the darkness of the upper and lower lip will be apparent.

X.

It is now time to say a little regarding the background of a portrait, than which nothing is more important, both in the portrayal of a head or a full figure. In the portraits of the early Italian and Flemish schools the backgrounds form no connection with the head, but are in strong contrast as regards color and tone, thus giving the portrait the appearance of being inlaid. This fault prevailed until the time of Titian, who reversed it, melting and losing portions of his figures in the background, and repeating the tones of the portrait in its surroundings. Paul Veronese, in his works, enriches portraiture, compensating for the dryness of the figure by the doubling and repetition of the outline in the background. Vandyke's works also present some of the best examples of backgrounds we possess, using the forms of his accessories either to contrast the lines of his figures or to aid them by extension.

The portraitist must not be content with the introduction of forms and lines, such as a curtain or pillar, merely to contrast the lines of his figures, but he should inquire into the advantages of their combinations, adapting them to his purposes in each application, to give depth and variety of light, shade, and tone. Hence he should study what it is which will confer dignity, repose, or action to his portraits, whether a largeness of parts and vigorous treatment, or continuity of outline and softness of definition.

XI.

In placing the sitter it is necessary to observe the head in different points of view, that the most characteristic view may be

fixed upon and the modifications of light and shade essential to its proper rendering may be observed. In some instances the features are too powerful, in others too weak; hence the necessity of a knowledge of the best mode of treatment which can be acquired only by preliminary study of standard forms such as we have in classic portraiture. The hand also is of great importance in portraiture, as giving grace and suppleness when properly placed and lighted. The shape and character of the hand varies much both in men and women, according to their character and occupation, and the varieties existing in this or that condition should be studied and known. In portraits of women the early artists made the fingers taper and bend slightly, whereby they secured flexibility and grace. The graceful bending of the wrists, so great an aid in the artistic portrayal of the hands, should also be given careful attention. The disposition of light and shade here is of the utmost importance, so that the hands may have a natural look, and yet contribute grace and beauty, without, by expression of power or action, drawing attention from the head.

XII.

We will now return to the first sitting for a portrait. It seems to have been an axiom with the great masters to place the sitter above the eye, as far as the countenance was concerned, without showing too much of the nostrils. The platform in the painter's atelier is seldom higher than two feet, and, as most painters stand at the easel, there is not much difference in effect. The position of the sitter and his relation to height of the easel (camera) must naturally depend on the character of the subject, that course being adopted which is most conducive to success. What is required is that the picture, regardless of its size, shall possess breadth of light and shade, the lights being well controlled, so that only the highest light be white, or nearly so, and the outline shadows melting away into the background.

XIII.

In the treatment of the head much will depend upon the tone-depth of the background employed. The effort should be made to represent the complexion and general look of the head as viewed a little way off. This is effected by the background and the lighting. In most pictures of the head the light goes diagonally across from the upper corner to the lower, which gives strength when properly balanced, and the greatest breadth of light and shade. In some instances, however, the whole space must be pervaded with light to give the desirable effect of repose. A common fault is the neglect of subordinating the white draperies to the head, which, as a rule, should somewhere show the highest light.

THE CONVENTION OF THE OHIO ASSOCIATION.[1]

(OFFICIAL REPORT.)

As reported in the August number the sixth annual convention of the Photographers' Association of Ohio, held at Columbus, July 14th to 16th, inclusive, proved one of the largest and most enjoyable meetings in the history of the organization. From all parts of the State the leading photographers attended, and the sessions of the convention were full of interest.

The main hall in the city building was

[1] Up to the date of going to press no report of the address and lectures given at the convention has been received.—ED. W. P. M.

transformed into a bower of loveliness and beauty, and the number of exhibits sent in exceeded the most sanguine expectations of the officers of the Association. The specimens of work included everything in the line of photographic art, and, as the exhibits were arranged by leaders in the profession, a most artistic result was obtained.

The chief feature of the convention was the salon, and in this enclosed space in the exhibition hall were displayed those photographs which, in the eyes of the judges, had enough aristic value to merit this high honor. The salon feature was introduced at the meeting of the Association in this city last year and was attended by great success. The judges this year were L. H. Meakin and Otto Beck, of Cincinnati, and L. W. Seavey, of New York. H. F. Farney and Mr. Norrotty, of Cincinnati, were originally on the board of judges, but were obliged to absent themselves on account of sickness.

The exhibition by amateurs was the first ever made under the auspices of the Association. Many of the pictures shown have won prizes at home and abroad. Among the more prominent amateurs represented were Rudolph Eickemeyer, Jr., of Yonkers, N. Y.; Alfred Stieglitz, of New York; Dexter Thurber, of Rhode Island; Alfred Clements, of Philadelphia; William Fraser, of the New York Camera Club; H. K. Noyes, of Kenwood, N. Y.; Fred. Graf, of St. Louis; Charles I. Berg, of New York; Kate Mathew, of Peewee Valley, Ky.; R. E. M. Bain, of St. Louis; and Mrs. Marie Platt, of Nantucket, Massachusetts.

The exhibition of radiographs or x-ray photographs proved to be one of the features of greatest interest to the public, who were admitted from 1 to 6 P.M. on the third day of the convention. The radiographs were taken by Prof. W. A. Goodspeed, of the University of Pennsylvania, and were loaned by Mr. John Carbutt.

The convention was called to order by President L. C. Overpeck. The reading of the minutes of the previous meeting having been dispensed with, the following communications were read:

853 BROADWAY, N. Y., July 10, 1896.

To my fellow photographers in convention assembled at Columbus, Ohio, July 14, 15, and 16, 1896, Greeting:

Please accept my fraternal good-wishes for you and for the success of your convention. May you find the ladder of art easier to climb and more enjoyable as the years go on. My mother's brother was one of the early settlers of Ohio. Our country has drawn many Presidents from Ohio. Our first good national convention was in Ohio. Many of my personal friends, whose photographic progress I have watched for over thirty years, live and labor for art in Ohio, and so I feel *near to Ohio*. So, then, hip, hip, hip, O—HI—O!

Very truly yours,

EDWARD L. WILSON.

BROOKLYN, N. Y., July 14, 1896.

Photographers' Association of Ohio, City Hall.

Congratulations and success. Sorry I cannot be with you. PERCY KING.

The President then made his annual address, as follows:

LADIES AND GENTLEMEN, MEMBERS OF THE ASSOCIATION: I take it as no small honor to be called upon to preside at the meetings of the Photographers' Association of Ohio. Although I assume the duties of the office with some misgivings as to my ability to properly perform them, it gives me great pleasure to be selected to take the chair before an association of photographers who rank as equal, if not superior, to those of any other State in this great country. We have met here so often, and have been made to feel so much

at home, that the formality of an address of welcome by a city or State official was thought to be more of a form than a necessity. Therefore I take it upon myself to welcome you, both visitors and members, to the meeting of '96. Since we are together here at this our sixth annual convention, let us be as one family and make our meeting a sort of a yearly reunion. Let us talk matters over in a plain social way. In our deliberations it is the desire of your President that all speak out freely on all the subjects which may be brought before the Association for discussion and action. This will, no doubt, result in finally settling questions in a manner satisfactory to all. The past year has been an eventful one in photography, although a little discouraging, owing to the general depression of trade. It is probable, however, that our art has not suffered more, as a consequence of this depression, than any other class of business. On the other hand, to the photographer who is wide awake and keeping apace with the times, there is some encouragement. Prices have an upward tendency where the results warrant it. It is also encouraging to know that the public are becoming educated and better able to appreciate a good photograph, especially from an artistic standpoint; and the photographer of to-day can, in many instances, present his patrons with a photograph which is in a degree a work of art, without fearing to receive all manner of ridiculous criticisms from a lack of appreciation on the part of the sitter or patron.

I have often thought of the expression made use of by a deaf-mute who entered my gallery some years ago. This young man desired to learn photography, and, as he could not speak, simply expressed his desires by writing the following: "I want to learn to art." Now in my opinion this is what we all want more than anything else; we should "learn to art" more than we do in every picture we make. The manufacturers are now producing materials which aid us very much to this end; so let us grasp the opportunity and raise our art while we may.

We have with us this year artists of national reputation, who have kindly come to assist us to attain a higher standard. We should feel very grateful toward these gentlemen for their services. The artist is beginning to see in us (not by the aid of the x-rays, however) something worthy of his attention. He is standing way up the ladder, as it were, beckoning to us to come up higher. We are advancing on the ladder; yes, I dare say, we have some with us who have taken a few steps up this ladder. Let us all push forward and take hold of the rounds, and never stop until we have reached the highest one possible for us to reach. It was with this idea in view that the Executive and Salon Committees arranged to make this meeting one full of art. We have had the chemical and mechanical branches of photography discussed until we have lost sight of the art side. This year your committee has offered as prizes medals and a grand prize. They have used their very best judgment in deciding upon the manner of awarding these prizes, and it is hoped that while some must of course be disappointed, as all cannot have a prize, those who have suffered defeat will submit gracefully and go home more determined than ever to excel in their productions. In conclusion, I beg to say that I trust that the day is not far distant when this Association shall have resolved itself into a photographic salon association, with a permanent home in Columbus, the Capital of our great State, where we may all come at any time and study art photography.

The President then appointed the following Nominating Committee: Mr. R. P. Bellsmith, Cincinnati; Mr. George Edmondson, Cleveland; and Mr. D. D.

Spellman, Springfield; and the meeting adjourned until 10.3 oo'clock Wednesday morning.

On Wednesday, July 15th, the convention was called to order at 11 A.M. The Committee on Nominations reported as follows: President, George B. Sperry, Toledo; First Vice-President, I. Benjamin, Cincinnati; Second Vice-President, J. R. Wickersham, Urbana; Secretary, L. A. Dozer, Bucyrus; Treasurer, D. D. Spellman, Springfield.

It was moved and seconded that the Secretary cast the ballot of the Association for George B. Sperry for President. Carried. The balance of the ticket was elected in the same manner.

The place of meeting of the next convention was next taken up. Cincinnati, Toledo, and Columbus were proposed in turn, and, after a lively discussion over the merits of the respective localities, the vote was taken, which resulted in favor of Columbus.

At the third day's session the Salon Committee reported, as moved and seconded, that the Salon or Executive Committee be allowed the privilege of having the salon jury of next year cull the exhibit of 1895. Carried. The report of the Salon Committee was received and committee discharged. The motion that a committee of one be appointed to act in conjunction with Executive Board in regard to the salon was carried.

Mr. J. M. Appleton then spoke regarding a co-operative movement between the State associations and the national association. He desired that the State associations should be induced to introduce the salon idea at their conventions so that the national convention exhibits should eventually be the salon exhibits of the different States. Mr. G. Cramer made a few remarks in support of this idea. Finally it was moved and seconded that the Secretary be instructed to correspond with the different State organizations and ascertain their feeling in the matter. The motion was lost.

A motion was then made and seconded that it was the sense of the meeting that the Association co-operate with the national association in alternating the meetings. An amendment was offered that the State association should hold two consecutive conventions and give up its third year to the national meeting. Carried.

Mr. G. Cramer, Mr. M. A. Seed, Mr. C. Hetherington, of the American Aristotype Co.; and Mr. Seavey, of New York, afterward addressed the convention on trade topics.

The motion was carried that Mr. George Steckel, of Los Angeles, Cal., be awarded an honorary medal for his exhibit.

The amateurs who sent exhibits were elected honorary members, and a vote of thanks was given them for their co-operation.

The city press and the photographic journals throughout the country were accorded a vote of thanks for their courtesies.

The thanks of the Association were also given to the city authorities for the use of the City Hall.

The Secretary then read the following announcement of awards, after which the convention adjourned *sine die:*

Special Prize—Pirie MacDonald, Albany, N. Y.

Grand Prize—Decker Studio, Cleveland, Ohio.

Class A, one entry—R. P. Bellsmith, Cincinnati, Ohio.

Class B—W. H. Minns, Akron, O.; W. N. Brenner, Cincinnati; A. L. Bowersox, Dayton.

Class C—D. D. Spellman, Springfield, O.; Meacham & Sabine, Youngstown.

Class D—Dozer & McClain, Bucyrus; R. D. Beem, Greenville, O.

Class E—J. D. McClain, Logan, O.; L. E. Martindale, St. Mary's.

Class F—No entry.

Class G—A. L. Bowersox, Dayton, O.; D. D. Spellman, Springfield.

Class H—J. H. Burkholder, Mt. Vernon, O.; Meacham & Sabine, Youngstown, O.

Class I—J. H. Burkholder, Mt. Vernon, O.; A. L. Bowersox, Dayton, O.

Class J—Meacham & Sabine, Youngstown, O.

A significant feature of the convention was the two lectures given on Wednesday afternoon and evening by Walter Otto Beck. They were the most practical and instructive *art talks* that have ever been given at any of the conventions. A member from New York remarked that they amply repaid him for his trip.

The afternoon and evening following the adjournment of the convention were spent in a delightful outing at Olentangy Park. A banquet was served at 7.30 P.M., to which 165 people sat down. Speech-making began at 8.30. President Overpeck made an excellent toast-master. Before announcing the speakers he warned them that no allusion to "shop" would be permitted. The speeches were witty and abounded in good stories. The last speaker of the evening very neatly clapped the climax by presenting the retiring President with a handsome bronze statue. He responded in a happy manner. The rest of the evening was spent in dancing and in having a general good time. The members said their "good-byes" and went their several ways, more than ever convinced that there is something in photography beside food and shelter.

(Signed), GEO. B. SPERRY,
Secretary.

THE OBSERVER'S CORNER.

I HAD occasion recently to investigate some subjects connected with the early days of the Daguerreotype, and came upon a copy of the first volume of Snelling's *Photographic Art Journal*, published in New York in 1851—forty-five years ago. A few glances into its pages soon reminded me of that stanza of the famous hymn—"Oh! Why Should the Spirit of Mortal Be Proud:"

"For we are the same our fathers have been—
We see the same sights our fathers have seen—
We drink the same stream and we feel the same sun,
And run the same course that our fathers have run."

There is as much truth as poetry in these lines. How well the author understood human nature. President Lincoln recognized its attributes and was fond of quoting from the hymn and acknowledging it to be a favorite with him. From the pages of this magazine we see that our Daguerreotype fathers were running the same course and seeing the same sights that their sons and grandsons are now pursuing and seeing. There was the same bitter envy and jealousy among them—the same difficulties in adjusting prices, the same problem how to get rid of the "Cheap John"—and the same attempt at solving the problem by the suggestion of the formation of a national society.

We do not remember that Mr. Snelling's advice was acted upon, and it is my impression that it was many years later before the first national photographic convention was held.

Our fathers ran the same course we are now pursuing in the matter of photography in natural colors. In 1851 L. L. Hill, of New York, claimed to have discovered the great secret. It created intense interest among the Daguerreotypists of the country from the fact that his claim was backed by the indorsement of Prof. Sam. F. B. Morse, by Edward Anthony, and others well known to the profession. He claimed to have specimens containing

a red house, green grass and foliage, several cows of different shades of red and brindle, colored garments on a clothesline, blue sky, etc. So much credence was given to these pretensions by the fraternity that they began to think that the millennium had arrived sure enough, and that they could not only make color pictures, but that they could almost, as it were, feel the color of the white and yellow coins of the realm on the linings of their pockets. Suggestions were made to compensate the illustrious inventor for his achievement. One suggested a royalty, that each gallery pay him so much a year for the privilege of using the invention. Mr. Edward Anthony thought the better plan would be to raise a sufficient sum in advance to enable Mr. Hill to live comfortably the balance of his life, and offered to head the list with a subscription of one hundred dollars. It was qualified, however, with the condition that the subscription should not be paid over until certain gentlemen should pronounce the discovery true and in all its parts as represented, both as respects the simplicity of the operation and the perfection of the results. All this is matter of ancient history, but it dates back so far that it is before the times of the present generation, and this is one apology for resurrecting the dead.

And now, while I write, the boys at Celoron are trying to organize a "School" system again. Well, it is right to keep trying. THE VETERAN OBSERVER.

THE PHOTOGRAPHERS' ASSOCIATION OF MICHIGAN.

THE second annual convention of the Photographers' Association of Michigan will be held at Detroit in February, 1897. The enterprising officers of the Association, led by President C. M. Hayes, of Detroit, are putting forward every effort to include all Michigan photographers upon the roll of membership and to insure an interesting and profitable convention.

The complete prize-list for the convention is given herewith:

The most artistic novelty photograph. Open to the world. One picture, 8x10 or over. One gold medal.

The Founder's Cup. Three pictures, 8x10 and over.

Special prize to photographers outside of Michigan: 1st. One gold medal. 2d. One silver medal.

Class A. Six pictures, 13 inches and over: 1st. One gold medal. 2d. One silver medal. 3d. One bronze medal.

Class B. Twelve pictures, Paris panel 13 inches: 1st. One gold medal. 2d. One silver medal. 3d. One bronze medal.

Class C. Twenty-four Paris panels: 1st. One silver medal. 2d. One bronze medal.

Class D. Twelve cabinet photographs. 1st. One silver medal. Diplomas to all over 21 points.

Class E. Six Paris panels and six cabinets: 1st. One silver medal. 2d. One bronze medal.

NOTE.—Competitors in Class E must be from towns of 5000 and under.

Class F. Twelve cabinets: 1st. One silver medal. 2d. One bronze medal.

NOTE.—Class F must be from towns of 1000 and under.

Class G. Best group, 7 inches and larger: 1st. One silver medal. 2d. One bronze medal.

Class H. Landscape, six pictures, 7 inches and over, with or without figures: 1st. One silver medal. 2d. Diploma.

Class I. Interiors, six pictures, 7 inches and over: 1st. One silver medal. 2d. Diploma.

Class J. Commercial work, six pictures,

7 inches and over: 1st. Medal. 2d. Diploma.

Classes A, B, C, D, E, and F must be portraits.

Each class must be displayed by itself.

Class B—three pictures of this class must be over 10 inches.

Exhibitors cannot compete in more than one Class of A, B, and C.

Displays can be made on any kind of paper.

Founder's Cup. Rules will be the same as on last year's contest. Pictures in competition for the cup cannot be entered in any other class.

All pictures must be framed. The committee suggest a one inch oak frame for exhibits.

Begin at once on your negatives. Invite sitters for that purpose. Do not stumble over technicalities. Let your eye determine the needs of your composition. Exercise it if you want to improve.

Members from towns of 5000 or less can compete in any class, subject to the rules governing the same.

Photographers outside the State desiring to compete for special prizes are required to accompany their entry with a fee of two dollars, thus becoming honorary members.

For the most artistic design for a diploma a prize of $25 in cash is offered.

Full particulars regarding the conditions governing competitors, etc., may be obtained from the Secretary of the Association, J. E. WATSON, 148 Woodward Avenue, Detroit, Michigan.

COLORED PHOTOGRAPHS.

BY G. E. WHITE,

WITH the revival of miniature painting on ivory comes a demand for skilfully colored photographs of small size. Properly placed before the patron who comes to the portrait studio, a trade can easily be secured in which the proportion of profit is larger than on ordinary work. A few good examples of colored work, framed without margins or with a small gold mat in real gilt frames, hung in a display cabinet away from direct sunlight, will generally be found to be sufficient to awaken inquiries leading to business. In the larger cities several photographers have by this means built up a profitable addition to their regular business. For the less expensive classes of work colored photographs on paper may be used; but for the best work, more delicate in its beauty, and more lasting in coloring, a portrait on ivory is advised. The peculiar tint and surface of ivory gives the finest flesh-tone of anything known, while the peculiar surface admits of the most minute finish.

Among the changes resulting from the introduction of the daguerreotype was the destruction of the art of miniature painting, so that to-day it is difficult, especially in our country, to find a good artist in that line. In earlier days the art-work was drawn and painted from life, and even yet the best work is done over a pure drawing to preserve the true ivory tint beneath the highest lights and delicate details of the portrait. Those who have taken up the work of late years, however, find some advantage in copying from a good photograph, while others work over a light carbon print transferred to an ivory base.

The coloring of these photographic miniatures, which range in size from a head of half an inch in width up to the small cabinet head, is an art peculiar to itself, difficult to learn, and requiring consider-

able skill and experience. The greatest difficulty in beginning is to learn to appreciate the effect of the photographic tints when covered by the colors employed, which differ much from the effect produced when the colors are applied over a hand-drawing.

The best work is generally done with English water-colors. I consider Winsor & Newton's half pan-cakes the best for the purpose. With a suitable photographic base, such as may be obtained by transferring a carbon print or collodio-chloride image to ivory or pure hard enamelled card, and a quick touch in applying the color, which comes only after long practice, as in retouching a negative, success is certain. The only secret of the work lies in the knowing how and where to place the color so that each stroke conveys the proper effect without need of after-work. This is obtained only by good instruction and experience. It can hardly be taught except by personal instruction.

With the increasing popularity of small pictures I am convinced that photographers will find it profitable to introduce the colored miniature to their patrons. But the work must be good. A well-executed miniature, whether on paper or ivory, with true flesh tints, harmonious ground, and carefully studied draperies, is quite different from the "cheap and nasty" aniline-stained caricature so often offered as a painted photograph.

The best work will bring from $5 to $15 readily, the size varying from locket to carte-de-visite. I have known such little pictures to bring from $25 to $50 when painted by artists of repute.

THE CONVENTION OF THE MISSOURI ASSOCIATION.

THE third annual convention of the Photographers' Association of Missouri was held at Sedalia, Mo., August 11th to 13th, inclusive, under the leadership of Mr. W. La Tour. The County Court House was selected as the place of meeting, and proved most convenient and ample in its accommodations. The photographers of the State were well represented, and the photographic exhibits were tastefully displayed at the rear end of the building, the corridors being devoted to the exhibits of the stock dealers.

After calling the convention to order the President introduced the Mayor of Sedalia, who assured the visiting photographers of a hearty welcome. After the address the meeting was adjourned to allow the members to finish arrangements for the display of the work sent for competition.

At the afternoon session the Secretary read the correspondence, and the nomination of judges was referred to a committee. All present then received an invitation to attend a demonstration of lighting and posing at the studio of Mr. La Tour on the following day. Mr. W. Rundle then addressed the meeting on everyday manipulation. The evening was pleasantly occupied by a reception and musicale tendered by citizens of Sedalia to the conventioners at Elk's Lodge hall.

The second day's business was opened by the election of Messrs. Scherer, Curry, and Maitland as judges of the competitive exhibits. Interesting papers were then read by Mr. Dunlap, W. A. Atwater, and others. The session was closed by an address from the President, and the exhibition thrown open to the public, while the conventioners enjoyed a carriage drive around the city, tendered by the Ladies' Auxiliary. In the evening the members of the Association attended the presentation of a two-act drama entitled "Smiles and Tears," given at the

Opera House. The various parts of the play were charmingly rendered by Mr. La Tour and his family, assisted by friends. At intervals the performance was enlivened by musical selections given by Messrs. Charles Hetherington, W. Rundle, and some others. Mr. La Tour was presented with a handsome shrine-pin set as a mark of the esteem in which he is held by his co-workers in the Association.

The morning session of the closing day was devoted to "finishing business" and a demonstration of printing and toning. The following officers were then elected to serve the Association during the following year: President, W. La Tour, Sedalia; Vice-Presidents, O. L. Hutchings, Marshall, and O. D. Fear, Odessa; Treasurer, E. Marks, Clinton; and Secretary, A. S. Robertson, St. Louis. Pertle Springs was selected as the meeting-place of the 1897 convention.

The prize awards were then announced as follows: Class A—First, F. W. Guerin, St. Louis; second, When Studio, St. Louis. Class B—First, J. C. Strauss, St. Louis; second, D. P. Thompson, Kansas City; third, W. F. Dole, Kansas City. Class C—First, A. S. Robertson, St. Louis; second, L. A. Bryarley, St. Joseph; third, G. W. Curtiss, Kansas City. According to the report, a gold medal was awarded to each of the prize-winners, but we surmise this to be simply a stenographer's error.

Among the visitors to the convention were Mr. G. Cramer and his wife, F. W. Guerin, Charles Hetherington, W. Rundle, R. B. Mullett, F. E. Hunt, Mr. and Mrs. Sellner, of Quincy, Ill., and several representatives of the dry-plate and paper manufacturers. Mr. H. A. Hyatt, of St. Louis, was ably represented by his son, H. H. Hyatt, Jr., assisted by W. R. Cammack, while the interests of the Somerville Photo Supply Co. were looked after by Messrs. Corning and Clagg.

With his accustomed thoughtfulness Mr. G. Cramer provided an inexhaustible supply of his famous "hot-weather developer" (lemonade), a valuable remedy in case of overexposure.

The photographic display was excellent and surpassed all previous exhibitions of the Association. The dealers' exhibits consisted chiefly of backgrounds, with the exception of the Hyatt display, which included practical demonstrations of the Leigh combination printing-frame, the California print washer, and the improved Peck pneumatic retoucher.

We record with pleasure our appreciation of the kindness of Mr. Harry H. Hyatt, from whose special report we take the particulars here given.

[Translated for WILSON'S PHOTOGRAPHIC MAGAZINE.]

HALATION.

IT is well known that halation is due to the reflection made on the back of the sensitive plate by rays that have passed through the emulsion more or less transparent, and that the diameter of the aureole surrounding the image of a brilliant point is in direct ratio to the thickness of this plate. Up to the present time efforts have been made to prevent the reflection on the glass by covering the back of the plate with divers substances. All our readers know that the application of a liquid of the same color as the glass prevents this defect, but, also, that this process, due to M. Cornu, is applied with difficulty by those who use a great number of sensitive plates. The color of the glass of the plate may play an important part in preventing halation. In particular, glass of a greenish-yellow color, by its absorbing

the active rays, possesses this property. Recently Mr. Renaud, at a meeting of the French Photographic Society, expressed his surprise that some of the plates used on an excursion showed halation in a remarkable manner, whilst others exposed on the same excursion gave much better results. Examination of the two kinds of plates revealed that the plates used were made of two kinds of glass. Those of green glass, more or less deep in color, did not show halation, while those in which halation was evident were of glass absolutely white, transparent, and almost pure. It follows that from this point of view there is an advantage in the use of ordinary cheap glass, smaller in value, in preference to the selected glass generally used for gelatine bromide plates. But if it be true that green-glass plates give good negatives, it must be acknowledged that it requires a long time to print the positives. Consequently, M. Guilleminot has sought to produce the absorption of the reflected rays, which ordinarily cause halation by first coating, in contact with the glass, with an absorbent emulsion, which, rendering impossible the reimpression of light on the inner surface of the sensitive coating, contributes to the suppression of halation. This plate has two superimposed coatings: the first is of bromide of silver, more or less rapid; the second (the coating in contact with the glass) is prepared with iodide of silver, not impressionable by the luminous rays. The light striking the first coating produces the image, passes through this coating, and is afterward absorbed by the non-sensitive iodide coating, which is of a rather opaque, greenish-yellow color. If, owing to a superimposition, the light rays should reach the glass and be reflected by it, this last coating would form a screen protecting the sensitive coating. M. Guilleminot thinks that he has thus found an effective means for the avoidance of halation.—*Bull. de la Société Francaise de Photo.*

EDITOR'S TABLE.

STUDIES FROM THE CELORON EXHIBITS.—From negatives made of several of the best exhibits at Celoron we shall present in our next issue a series of half-tones intended to give not only beautiful studies in photography but some frame-patterns and ideas as to how exhibits may be effectively hung.

A VERY PROFITABLE OPPORTUNITY for ambitious portrait-workers, who feel the need of seeing the work of others as a guide in their own endeavors to excel, can be found in the pages of *Mosaics*, 1895 and 1896, where are presented the Convention pictures of 1894 and 1895. These, carefully examined in company with the pictures from the Convention of this year now appearing in our pages, afford many practical lessons. As long as our supply of the *Mosaics* lasts we will send postpaid to any address *Mosaics*, 1895 and 1896, on receipt of seventy-five cents. As only a few copies of each volume are on hand, orders should be sent without delay to prevent disappointment.

THE JEX BARDWELL HOME.—The committee on this laudable enterprise, aware that hot weather may have prevented some of our patrons from reading the appeal made for Mr. BARDWELL on page 377 of our August number, asks that no one may overlook it or neglect a response to the call. The committee desires to thank the A. C. Austin Engraving Co. for donating the half-tone of Mr. BARDWELL'S grandchildren and for supplying duplicates for use in the other magazines. Also to the editors of the *Photo Beacon*, *Anthony's Bulletin*, *Photographic Times*, and WILSON'S PHOTOGRAPHIC MAGAZINE for publishing the appeal.

As soon as [illegible] creation season is over the committee ex[illegible]tematically take up this matter of [illegible]ARDWELL in live earnest. A [illegible] accomplish the work.

MORE interesting matters concerning the P. A. of A. Convention are in preparation for our next number. Some of the papers read must be illustrated, and to prepare the pictures takes time. Any delay will give more opportunity to "inwardly digest" what has already been given.

A VALUABLE DISCOVERY.—Those who have ever been afflicted with the painful and irritating trouble caused by ivy-poisoning will be glad to learn that Walpole pure thiosulphate sodium (hyposulphite of soda) is a positive external cure. The subjoined letter explains itself:

"A case of complete and immediate relief from the effect of ivy-poisoning is reported in the *Medical World* by Dr. W. L. SHANKS. His patient was swollen from head to foot, but in an hour after bathing in a solution of sodium hyposulphite (thiosulphate sodium) was attending to business as if nothing had happened."—*Franklin* (*Mass.*) *Sentinel*, July 17, 1896.

Avoid using common hyposulphite of sodium, as it contains impurities that would injure the skin. The Walpole pure thiosulphate sodium is in a granular form, is a chemically pure product, dissolves instantly in cold water, and will not injure the most delicate skin. For sale by all druggists. A package containing sufficient to cure an ordinary case of poisoning by ivy will be mailed on receipt of ten cents (stamps), by the Walpole Chemical Works (business founded 1870), Walpole, Mass.

THE TABER BAS RELIEF PORTRAITS.—Few business novelties introduced since the gelatine plate have awakened such widespread interest as the bas relief portraits produced by the TABER BAS RELIEF PHOTOGRAPH CO., 121 West 23d Street, New York. We have in preparation an article describing these pictures and their advantages, but they must be seen to be appreciated. A specimen may be obtained at a slight cost by addressing the company as above.

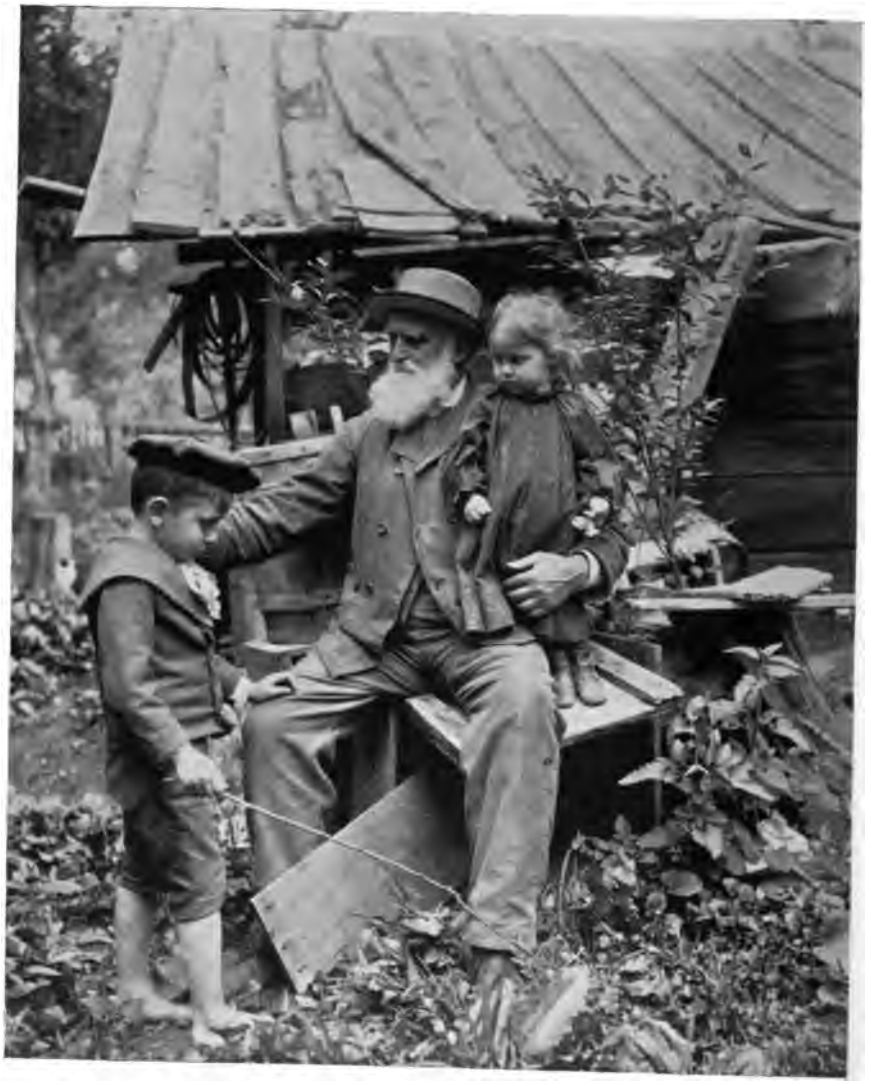
"THE IMMORTAL SIX" is the name of a social club formed in Cleveland, Ohio, about forty years ago. In 1858 "The Immortal Six" resolved that the club (restricted in membership to six young men) should be photographed. Accordingly they proceeded in a body, with solemnity befitting the occasion, to the studio of our old friend, J. F. RYDER, then situated at the co[illegible]f Superior and Bank Streets. The young p[illegible]apher did his best and produced an excelle[illegible] few days ago the club had its fortieth a[illegible]he occasion was celebrated by [illegible] RYDER's studio, and the making of another group picture of "The Immortal Six." The two groups of 1858 and 1896, showing the same "boys," and taken by the same photographer, were reproduced in the *Cleveland* (Ohio) *Leader* a few days ago.

MR. H. A. HYATT, of St. Louis, sends a beautifully illustrated catalogue of the new Oriental posing chairs he has recently placed upon the market. They are admirable in design and reasonable in price.

ONE of the cleverest multiple pictures we have yet seen comes to us from Mr. PETER DILLER, the owner of KLAY'S patent multiplying plate-holder, Bluffton, Ohio. It is a smile provoker, entitled "From Morn to Night," and plainly indicates how photographs made with the KLAY holder may be used both to bring business and secure higher prices than can be had for ordinary work. The picture is of the usual cabinet size, but contains twenty-eight oval medallion portraits, excellent in technical quality and full of spirit. These show a series of typical poses assumed by a business man during the progress of a day, the portraits being about half-length figure. In the first of the series the subject rubs his forehead and his expression shows his realization of a headache. In the second picture he is seen to take a bromo-seltzer to relieve the headache. Then follows the toilet step by step until he puts on his hat and starts for business. The multiple holder is now widely, used among the fraternity and multiple pictures are becoming popular. The holder is easy to manipulate, gives any number of pictures from two to twenty-eight on a cabinet plate 4¼ x 6½, and should practically pay for itself in a very short time. All dealers sell it.

IN our next number we hope to present two half-tone engravings made by the new ERWIN half-tone method, described in a recent issue. This method is especially suited for use in connection with a photographic business, and those who are seeking to add a process department should communicate with J. BRUCE ERWIN, Newcomerstown, Ohio. The process introduced by Mr. ERWIN is highly spoken of by those acquainted with its merits, and we can recommend it as a good investment at the moderate price asked for it.

"BY FAR THE BEST OF ALL."—Such we learn from all quarters was the report, etc., of the Conventivon at Celoron, given in *this* MAGAZINE.



A. P. Miller. *Tunkhannock.*

THE CULPRIT.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. OCTOBER, 1896. No. 478.

ON THE GROUND-GLASS.

THE *Ground-Glass* has returned from its vacation-weeks somewhat abused and broken up. It believes that of all the transactions carried on in the name and in behalf of photography, one-third at least are wrongfully done. It is forced to arrive at this conviction by its late experiences with some of the vendors of photographic necessities. Either these people have more to do than they can attend to properly, or else they have no feeling nor fitness for their business. Careless indifference to the wants of their patrons, ignorance as to how those wants should be supplied, and a generally "slouchy" way of doing things cause the photographer afield many an unnecessary pang and frequently much loss.

The Ground-Glass was closed in on a mountain-top for a while in August, three miles from the express office, thirty miles from the nearest dealer, and forty miles from a pound of Walpole "new-process hypo." An unlucky stumble over one of the legs of the tripod caused a downfall. The camera was sent off for repairs. It came back promptly, but the platform-extension was kept back; the catch of the ground-glass was not repaired and a crack in the front-board was entirely overlooked. Consequently the views next taken were necessarily a little out of focus, and some of the plates were light-struck. A toothpick was used to keep the catch from flying back when there was no real necessity for it to do so; but once or twice the toothpick fell to the ground while the slider was being replaced after exposure, and some fine pictures were thus spoiled. These were not the only griefs. Some plates came a size or two larger than the ones ordered; mat paper was substituted for glossy, and other tedious grievances fell upon *The Ground-Glass*, which led to the unhappy conclusion that the want of thoroughness is a disease, prevailing at least, among the provincial dealers in materials, and that there is no wonder that the masses are turning to the bicycle and sweeping around barefoot in the dewy grass for comfort and consolation and health.

The "fatal facility" with which photographs may be made has induced carelessness on the part of the camera-pusher, and perhaps the amateur dealer has gathered the idea from this fact that the "hit-or-miss-rule-o'-thumb" method is quite good enough for him, too. Such ideas have done much harm to photography, and the good must suffer in consequence with the bad. *The Ground-Glass* can testify to a share of the suffering. With it negative-making is a serious affair, and it gives no

way to frivolity. It must not give way to grief.

The attachment and even affection which are felt for the pursuit of photography by some are pathetically shown by a letter recently received from an old friend of *The Ground-Glass*. Several years ago the writer was stricken by a malady which deprived him of the use of his hands and somewhat of his mentality. Recently he has been restored to comparative health, and he is able to indulge in his love for photography again. He takes early opportunity to express his delight to the old friend to whose pages he has contributed many useful ideas. Among other things he says:

"I am much pleased to receive your kind words about my pictures. It gives me encouragement to go on improving. Not having a special art training, photography is the only means I have of expressing my artistic feeling. I was afraid, after so long disuse of my faculties, I had forgotten much, but was agreeably surprised, after a few snags were passed, that I could safely steer in the broad stream, as in days gone by. Anyone once inoculated with the photographic virus the fever never leaves, and he is sure to return to it again; but photography, like music, requires constant and uninterrupted attention to produce the best work. In development especially the eye must judge from experience, and it requires a little time to retrain it if one desires soft and pleasing negatives. I know you are not of that number who teach the doctrine that the art is as easy as 'rolling off a log.'"

"The best work," says our old friend. A train of thought is always started by these words. They form a trio which should always be bounding through the mentality of the earnest worker, and they likewise start up another trio, in the form of a question, as follows: "What is best?" Anyone who thoughtfully viewed the exhibition at Celoron must have been impressed with the fact that many meritorious and ambitious photographers are absolutely unable to determine this matter of "best" for themselves. They show a great deal of ground and lofty tumbling, as the circus-bills say, and produce some results which are far from the best art. Some appear to think that if they can show forth some eccentricity in posing or lighting or composition that they have reached the top of the ladder; are able to "educate" the judges, and warranted in returning home by way of New York and there purchasing a short-cut velvet coat with a fur collar for their studio uniform. Some have formed some crude ideas about "impressionism," and have followed this vague jack-o'-lantern into the pale of obscurity. It is difficult to suggest how these dumb tendencies are to be checkmated.

It may be that a few thoughts upon impressionism right here may serve to help a few wrong-goers to start up for their Christmas orders in a becoming manner. *The Ground-Glass*, therefore, ventures to add a few thoughts upon this subject:

After looking at the pictures of Claude Monet, shown a short time ago in New York and Boston, a critic, describing one of his pictures, says: "The haystack swimming in iridescent slush is not an elegant object; it is understood that the sun was setting when this was manufactured, and it was high time for the haystack factory to shut down. Yet there is some distinction, style, and elegance of design in the haystack when it is compared with the 'Islands on the Seine at Vernon.'"

Another says: "Nothing should for a moment unsettle the old belief that art is the exponent of the good and the beauti-

ful, and is not the worship of the false, the queer, and the fantastic.

"Very beautiful were a series of pictures drawn with masterly skill of the wonderful Millet, in absolute contrast to this last the exponent of the Ruskin realist or extremist. 'This peasant painter, who maintained that a spade was but a mass of shadow against a low twilight sky in the hands of a figure who with uncovered head listens reverently. It was perfectly immaterial to him whether it was a spade or a shovel, so long as the soft twilight and the reverent figures, wearied with the day's work, and the flat waste of field stretching away to the little village spire on the dim horizon-line told the story of human suffering and toil, as with folded hands they listened to the soft cadence of the Angelus.'

"The extreme impressionist works thus: 'One dash for the sky, a sweep for the mountain-range, a dab for the tree, a dot for the farmhouse, with a smear for the fence—and all is over.'

"There is only one bull's-eye in a target. It is exactly in the centre; when you hit it you win; when you miss it you lose. But don't tell us, you impressionists, that you hit it every time. We know better. We can find the holes."

This critic freely accords praise to Monet. It has been the study of Monet's life to get three notes correct—a luminous silver sky, wheat-stacks brilliant in golden sunlight, and cool purple shadows. In conclusion our critic says: "Paint what you see and as you see it; nothing more, nothing less."

Of course *The Ground-Glass* understands that these quotations allude to painting in oil and color. Nevertheless there is enough analogy between our works to make possible the extraction of useful lessons. Think of the masses of light, the inharmonious accessories, the wild arrangements, the frantic posing, and so on, in some of the photographs we see, and the impression that there is much wrong-doing will become deepened.

Do not permit yourself to go *all* wrong, as did the bonnie Scot mentioned in this:

"One day while Millais was engaged in painting his famous picture, 'Chill October,' among the reeds and rushes on the banks of the Tay, near Perth, a voice came from over the hedge:

"'Man, did ye never try photography?'

"'No, never,' replied Millais, painting slowly.

"A pause.

"'It's a hantle quicker,' said the voice.

"'Ye-es, I suppose so.'

"Another pause. The final thrust was:

"'An' its mair liker the place.'"

It is unfortunate that *Tit-Bits* (where the anecdote originally appeared) does not tell us if Sandy was an amateur photographer or not, but it is more than likely that he was. His loyalty to it was admirable any way, but his judgment was altogether damaging to his growth as an artist. Photography does not always produce pictures which are "mair liker the place."

Some time ago *The Ground-Glass* focussed upon the following about the "Sound of a Sunbeam:"

"One of the most wonderful discoveries in science that has been made within the last year or two is the fact that a beam of light produces sound. According to Milling, a beam of sunlight is thrown through a lens on a glass vessel that contains lampblack, colored silk or worsted, or other substances. A disk, having slits or openings cut in it, is made to revolve swiftly in this beam of light so as to cut it up, thus making alternate flashes of light and shadow. On putting the ear to the glass vessel strange sounds are heard as long as the flashing beam is falling on the vessel. Recently a more wonderful discovery has been made. A beam of sunlight is caused

to pass through a prism, so as to produce what is called a solar spectrum or rainbow. The disk is turned and the colored light of the rainbow made to break through it. Now, place the ear to the vessel containing the silk, wool, or other material. As the colored lights of the spectrum fall upon it sounds will be given by different parts of the spectrum and there will be silence in other parts. For instance, if the vessel contains red worsted, and the green light flashes upon it, loud sounds will be given. Only feeble sounds will be heard if the red and blue parts of the rainbow fall upon the vessel, and other colors make no sound at all. Green silk gives sound best in red light. Every kind of material gives more or less sound in different colors, and utters no sound in others."

All of us have had ample opportunity during the last quarter to investigate not only the "sounds of the sunbeam," but to form a very warm acquaintance with it in many directions. Doubtless the experimenters in three-color photography have been much helped by the hot weather, for, seriously, there is room for important experiments in connection with this discovery. Let phonographic connection be contrived so that the sounds referred to can be correctly recorded. Let these sounds, as related to the use of the different colors, be carefully studied; then who can tell but that it will develop that the sounds themselves are in fact conveyed through the medium of light from, and are reproductions or intonations of, sounds in the sun itself? We do know that the air is full of sound, and, to our sorrow, have found out that in three-color photography our very silveriest clouds (16 to 1) often turn out pink and rosy when they come to be registered. This much may be recorded as fact even now—*i. e.*, that "silence is golden" when one needs to secure three negatives which will register.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

(Continued from page 395.)

ADVANCED SERIES V.

THE craftsman who has followed these studies in color thus far, and has his color-charts at hand for reference, will now be conscious of a gratifying ability to manipulate the colors which he is daily called upon to use.

He will now be well prepared to begin a new series of combinations. Our color creation rested upon the tripod, yellow, red, and blue, because the red, green, and violet theory has been declared by scientists as more inimical to the advancement of our craft, and to be the cause of more disheartening failures than all others combined.

"To discover the essential principles of nature is the business of the art-worker, and these are founded upon truth, beauty, proportion, fitness, variety, and grace."

Again, a writer says: "Color is to form what the breath is to the body. Form hath its music, but color hath its melody, and he who can most happily combine the two will indeed fashion in fairest seeming."

Now the tri-color method will answer all commercial needs admirably, but it is to be hoped that the aspiring worker will hardly rest satisfied with ability to comply with industrial demands alone, but will aspire to become a "*paysagiste*," or one who aims to produce representations of the poetical phases of nature, aiming thus to give æsthetic pleasure.

Such talented experimentists as Dr.

Eder, Hübl, Levy, and E. J. Wall, with other experts, more than a year since doomed the screen-plate tri-color to the limbo of disuse, because of certain inherent defects of method and of the inability of those who practised it to produce mechanically any really artistic creations. Superimposed colors, often printed from plates unsuitably prepared, simply give us degraded specimens of chromatic work, when the dots fall one upon the other, as anyone may see by reference to the primary, secondary, and ternary lessons given. Those concerns, however, using color plates, handworked, frequently produce very pleasing results, because the foundation of such art is a matter of the intellect, not of mechanics, for poetical interpretation is the representation of nature's occult meanings. One must be governed by artistic feeling, judgment, and taste, if one would hope for success.

Because, with few exceptions, the monotonous screen-plate productions fail utterly to please people of cultivated taste when adapted to the reproduction of high-class art work, the irregular grained or stippled screen has appeared. These, whether by sand-blast or chemical methods, give ground for much hope for the future chromatic work.

This hope has incited the writer of these lessons to make an effort to place a meritorious vocation upon a secure and practical foundation.

With the pigments at command, and the vehicles used to make these available, there will ever be much opportunity for criticism, but there is a stage of criticism beyond mere fault-finding. It is when the *intelligent* critic sees clearly the limitations of the method, perceives the difference between art and nature, and understands why the artisan has taken the liberties evident, in his work, but, knowing the reasons, forbears to censure. Says the famous artist, Hunt (and it is to artists alone that the ambitious worker may look for help): "The beautiful and thoroughly artistic treatment of nature is that in which she is apprehended as light, shade, and color only, the form being nowhere *insisted* upon, though nowhere *inaccurately* rendered; but nothing is rarer than this inordinary procedure. Put in such details as will help the masses, but don't have your work all frills." For the artistic reasons given stippling has been introduced in these lessons in order to train the vision to discern subtile effects that will, in the immediate future, be insisted upon by the people of culture whom we desire to please.

Solid facts are arguments difficult to meet. At a recent art exhibition the judges were allowed to award and distribute some $5000 in money. One-half of this sum, $2500, went to artist Jalden Weir, because, said the judges: "With a composition of näive simplicity he finds in nature the sparkle of *prismatic color*, the chromatic vibrations of light. He gives the suggestion rather than the elaboration of the details of landscape or figure." Again, $1500 went to Childe Hassam and $1000 to F. Benson, "because their paintings are full of sunshine and vibratory color. They are painted as brightly as the palette fired by impetuous desire permitted, and painted very far beyond those of the most daring of their fellow-associates."

Here, then, men who can see and represent the "sparkle of prismatic color and the chromatic vibration of light," and who dare to give the "suggestion rather than the elaboration of details" in their pictures, have found rich pecuniary rewards for their talent and courage. If this be treason, messieurs photocritics, make the most of it. Again of Whistler, another artist "who has dared," the awakened critic says: "His pictures are things of beauty and joys forever to those *who can taste them at all.*" Note the italics. "He

has done in a manner altogether masterly things which no artist has done before. He reveals in his works new beauties in nature, and has added to the resources of art."

Let the student read and ponder the foregoing paragraph, as it contains food for thought, for it marks a new departure in process color-work.

Having given the best years of his life to the profession of lithography, it was with a thrill of pride that the writer noted some remarks upon the revival of lithography as a fine art in a late magazine, as made by the recent exhibit of the evident famous artist, Whistler, in France:

"At the Champ de Mars Centenary Exposition Mr. Whistler demonstrated most unmistakably the claims of lithography as a fine art by the entry of seventy of his wonderfully beautiful creations. Mr. Whistler says, "Of all the arts lithography alone abhors all the tricks of the craftsman, and so he choose this medium because it alone could yield the qualities he desired. Looking at the seventy prints, one feels that by no other method could such results have been obtained. In each print it is Whistler's *own work* that one sees; his lines as *he* made them, not as acid bit them. His washes as he laid them, not smudged by the printer with inky rags, as etchings are, or daubed by the finger. It is, in short, for its simplicity and absolute truth, in the fact that it is the duplication rather than the reproduction of the original, that lithography was chosen by this artist."

Again, chancing to take up a copy of that excellent publication, the *Process Photogram*, we read that Professor E. J. Wall, writing of "Three-color Work," says that, "even in the face of the specimens which I can show you to-night, I believe that the process-block will have to go from the art point of view for this work. The process for the future for photochromy is lithography. We are not going to be content to have our colored pictures crosspatched and degraded by the cross-lines of the block." He goes on to speak of the desirability of the grain for color-work: "Let the craftsman note the signs of the times and shape his course accordingly. On our last chart the primary, secondary, and tertiary colors were exhibited stippled, and in complementary relation. Now, this matter of complementary color is as important as that of juxtaposition. One must learn to look for it, and understand it when found. One may seek it in vain among any dozen of the tri-color productions so far put forth.. This lack explains some of the shortcomings of the method, and makes evident the need of the intellectual element in reproductive color-work."

Again, I bring the testimony of an expert, the art editor of *Scribner's Magazine*, who says:

"It is the disposition of the colored light to cast its complementary color in shadow. On a snowy surface a yellow sunset throws blue shadows. A red sunset throws green shadows. A greenish-yellow sunset throws violet shadows. This snowy surface answers to our white paper." Further, he says: "Changing now to the grassy field you will get bluish-green shadows from a yellow sun at noon. On a dusty road lilac or pink-coloring; but if the same fall upon mossy rock or tree-trunk it turns to a purplish-green. It is in hot, hazy weather that either shadows appear. Dust-laden atmosphere causes colored light, and this in turn causes colored shadow. A cold, clear atmosphere checks radiation, and shadows fall bluish or purplish then. Under a cloudy gray sky near-by shadows are a grayish-blue, but at a distance purple." He adds that it is a foregone conclusion that the scale of color must be readjusted, and it can only be done by the observer who studies nature at first hands.

To enable us to enjoy the uplift that is near in artistic matters, we will now abandon the ternary series, and pass to some experiments with a quinary series. We take of

5 *Yellows.*	5 *Reds.*	5 *Blues.*	5 *Browns.*	5 *Blacks.*
Aureolin.	Scarlet Vermilion.	Cobalt.	Light Red.	Ivory Black.
Yellow Ochre.	Vermilion.	Prussian Blue.	Burnt Umber.	Lampblack
Raw Sienna.	Scarlet Lake.	French Blue.	Van Dyke Brown.	Payne's Gray.
Raw Umber.	Rose Madder.	Antwerp Blue.	Brown Madder.	Neutral Tint.
Indian Yellow.	Carmine.	Indigo.	Burnt Sienna.	Sepia.

All these can be obtained in small pans, as before told, made by Messrs. Reeves & Son, and noted on the diamond color chart before given.

Carefully cut a square from a strip of thick cardboard one and a half inches each way. With a lead-pencil trace the outer edges of this stencil upon a sheet of Whatman's paper, several rows, until say a dozen are indicated. Divide each squarely by a vertical line in centre. The left-hand panel is to be lightly stained in stipple for a light tint. The right hand, with at least three shades deeper color, for a dark one.

We begin with strong foreground colors. Stipple first half of first square in burnt sienna lightly. Let dry. Follow with brown madder in the interstices. In half make colors much stronger and stipple as before.

In second square, stipple lightly and darkly burnt sienna and burnt umber. In third, ivory black and burnt umber. In fourth, scarlet vermilion and light red. In fifth, rose madder and aureolin. In sixth, light red and yellow ochre. In seventh, burnt umber and Prussian blue. In eighth, light red and Prussian blue. In ninth, scarlet vermilion and French blue. In tenth, cobalt and light red. In eleventh, ivory black and brown madder. In twelfth, ivory black and Prussian blue. The color first named is to be allowed to predominate in each case. Let it be remembered that an exhibit may be made with the color first named, with all the blues, all the reds, and all the yellows, and it is urged that such combines be made.

Hamerton names as the chief points in landscape work: 1st. Color. 2d. Composition. 3d. Texture. 4th. Light and shade. From which it may be seen that photography with the lens is relegated to the last place. With this we leave foreground work to study foliage colors next.

PHOTOGRAPHING CHILDREN.

BY E. B. CORE.

(Extracted from Mr. Core's address to the P. A. of A. at Celoron.)

THE principal factors which enter into the composition of the successful photographer of children are good-nature and patience. The former can be cultivated by sound philosophy; the latter I learned very early in life, waiting for the second table when we had company at our house.

There are few vocations in which a man's own personality plays so important a part as this of ours, where expression has so much to do with the amount of money in the cash drawer. We have all met the man who made us forget our cares — whose strong magnetic nature seemed to thrill us through and through —who seemed to bring sunshine into the room as he entered and left it aglow on his departure, making us feel like again taking up the burden of life, which was less a burden by half. Such a one is the

successful photographic operator. The subject on entering his presence forgets he has come to perform some irksome duty—is at once put at his ease, his face lights up with the general good-fellowship, and the results are likely to be a success. . . . I feel there is, perhaps, no business subject to so many petty annoyances, so many little disappointments. But because Mrs. Jones don't like her position, or Mrs. Brown isn't suited with her expression, and Mrs. Smith thinks little Johnnie's mouth too large entirely, is the case made more agreeable, and, as a fact, is it not made more disagreeable by your getting out of patience and having it out with Mrs. Jones, Mrs. Brown, and Mrs. Smith, getting yourself all worked up and thereby spoiling expressions for the whole day?

We sometimes meet a sort of a negative subject, who, though he has come to you to be made a negative, is already a very positive negative, one whom it is impossible, as Julius Strauss would put it, to limber up—and, by the way, I don't want to meet him if Julius Strauss couldn't limber him—one with whom one can't get in touch, can't complete the circuit in that mental telegraphy, whose answer to your every question is a monosyllable, too engrossed in his own importance to understand how really like a country judge at a county fair he looks. Such a one is hopeless. And can we only expect the proofs to convince him? I have treated this subject in the light of adult sitters, as it applies as well to them as to children. For while an abundance of good-nature and patience are desirable qualities in the handling of adults, they are absolutely indispensable to the handling of children. While a certain amount of firmness as well as love rules the home-life of these little ones, in the studio all must be love and patience. Don't expect to make pleasing pictures of them if you are bored by their childish prattle. The hoary head of the octogenarian inspires us with admiration, but the innocent, unconscious beauty of childhood inspires us with love. Nothing on earth is sweeter than their bright, happy faces. Nothing more interesting than their description of the newest doll, or the big brown dog at home. I love to hear them talk, and always seek to draw them out. I try to have them feel that they are doing just what they want to do themselves: always lead and never drive them. I am often hampered by a mother who has a very obedient child and whose constant admonition is, "Now keep right still and do just what the man says." He will stand still, but not as gracefully as one of those painted wooden figures, ready at a moment's notice to perform his part in the, to him, mysterious, useless, and maybe dangerous operation. He is your positive negative in childhood, but you can limber him with a game of ball. They frequently say, "Ain't I doin' to have my pictur' taken?" after I am all through, thinking they had only been having a romp with me. Don't shove them out the moment the sitting is completed, for there are none so quick to detect insincerity, though none so quick to repay your love. Any interest taken in them finds a ready response in the mother's heart and a generous response in her pocket-book.

THE TABER BAS-RELIEF PHOTOGRAPH.

THE bas-relief photographs invented by F. A. Taber, of San Francisco, and now being introduced by the Taber Bas-relief Photograph Co., 119 and 121 West 23d Street, New York, seem to attract considerable attention wherever shown. A few days ago we visited the office of the company and, in company with Mr. F. A.

Winfield Scott. *Trinidad, Mexico.*

IN MEXICO.

Taber, inspected the extensive plant in operation, together with some very charming results produced by the process.

Briefly, the new process, patented in this country and abroad, is a method which, from an ordinary flat photograph of any subject, produces a picture in strong relief. The method itself is not offered for sale, but the company undertakes to make the bas-relief pictures from the photographs supplied by photographers. The possibilities of the method would appear to be innumerable; we have seen it effectively used for large composition pictures for publication, for groups from life simulating statuary, for pictures of political candidates, for photographs to be used as advertisements and other commercial purposes. It is, however, seen to most advantage in its application to portraiture.

The relief is secured in the following way: A print of the subject is made from the negative in the usual way, and fastened or mounted upon a flat block of wood, very similar to the wooden base of a photo-mechanical block. Following the features of the mounted print the highlights and prominent features of the subject are then carved out of the wooden block, a wooden mould being thus produced the depressions in which correspond to the lights and outlines of the picture. The mould is then roughly dressed off so that no sharp edges are left.

The prints which are to be embossed, or rendered in bas relief, taken from the negative made by the photographer in the ordinary manner, should preferably be made upon platinotype paper. Plain Saxe paper, or print-out paper, such as aristo-platino, also answers the purpose admirably. These prints are first mounted on cards of medium thickness, thoroughly dampened, placed on the mould so that they register exactly with the print first affixed to the block when the mould was made, and left under heavy pressure until quite dry, when the relief obtained by pressing the prints into the depressions of the mould will permanently keep its form.

The new pictures, so like an ordinary photograph and yet so different, are practically a combination of the photograph and cameo, and must be seen to be appreciated. Bas-relief pictures will undoubtedly form a leading feature in the fall trade just beginning. Messrs. Falk, Schloss, and many others of our city, Guerin, Strauss, and Rösch, of St. Louis, with many of the leading portraitists of the principal cities, are already using the novelty as an inducement for high-class business. We presume that the company will be glad to supply full information to such of our readers as may apply for it, but the most practical way of becoming acquainted with the business value of Mr. Taber's invention would obviously be to send to the offices of the company a sample portrait or two for treatment by the process.

STRIPPING GELATINO-BROMIDE PLATES FOR USE AS FILM NEGATIVES.

For many photographic purposes a film negative has obvious advantages over one obtained on the ordinary glass plate. Every year the number of photographers using sensitive films in place of dry plates increases, especially for work done at any distance from the studio, or where the materials for outdoor work have to be carried from place to place as the work in hand requires. Only a few days ago we met with a photographer whose work carried him from Colorado through Mexico, Central America, and thence to British Guiana. He declared himself in favor of

cut films (Carbutt's preferably), and had enjoyed uninterrupted success in their use for portraiture as well as view work.

The manipulation of films is, however, regarded as impracticable except for the smaller sizes of work. Hence where large negatives are required glass plates are still universally employed, the films being afterward stripped from their glass support in cases where film negatives offer advantages for the work in hand. In a recent number of *Photographische Correspondenz* E. Valenta makes known a simple and cheap method of stripping gelatino-bromide plates for this purpose. He claims that it is identical with a high-price secret process at present in vogue among French photographers.

The negative to be stripped is immersed for ten minutes in a solution of—

Formalin (40 per cent. solution of formaldehyde) . . .	10 parts.
Water	150 "

then dried and coated with a 2 per cent. enamel collodion (plain collodion with 2 per cent. of castor oil).

The collodion is allowed to set perfectly, when it assumes a dull milky color, turning to a blue. At this stage the negative is well washed and the film is cut through round the margins of the plate (about one-sixteenth of an inch or so from the edges) with the edge of a sharp knife. The film is then dried by pressing upon its surface filter-paper, using an India-rubber roller squeegee, which removes all surface moisture and permits of the stripping of the film.

The film is then transferred to a bath made of—

Glycerine	5 parts.
Alcohol	5 "
Water	100 "

The glass plate from which the film has been removed is cleaned by sponging it with a little of the diluted glycerine bath, and the film (collodion side down) is retransferred to the old support, pressed into contact with the roller squeegee over a sheet of filter-paper, and stood on end to dry, on which it loses its milky appearance.

While dry, and still on its glass support, the film is again coated with enamel collodion (thinned by the addition of two parts of ether and alcohol to one part of the collodion), and carefully drained. When dried the film is again cut through at the margins, stripped from the glass, and kept flat between two sheets of paper. If any difficulty is experienced in the final stripping of the film (now collodionized on both sides), the plate should be placed in warm water, when the film will peel off without trouble. It may then be dried between drying-boards under slight pressure in a printing-frame.

The process is said to be uniformly successful and to give excellent results with ordinary care.

ART IN PHOTOGRAPHY.

BY J. S. SCHNEIDER.

(Extracted from Mr. Schneider's address at Celoron)

MUCH has been written and said on this subject, and it is not my intention to enter into lengthy details, or review what has been done in the past, as we all know what strides have been made, which fact is surely proven by the pictures we see at our present convention.

The photographic operator has labored to create pictures, and his success is evidenced each year at our conventions, until his productions are no longer mere photographs, claiming merit alone on their quality of light and shade and chemical effect. He is not now satisfied with

mere perfection of mechanical details; he goes beyond, to produce and materialize ideas containing the sentiment, romance, poetry, and all the elements of an artistic and cultured mind. When we reach this point we are artists in the true sense of the word; we possess the skill to produce, and not only that, but we know and feel the soul, the beautiful, the immaterial. When skill and fine appreciation are combined in one man, he is an artist, and surely his productions are artistic.

In photography the time for a man to show whether his ideas are such as to warrant his productions being classed with works of art is before the negatives are made. At this time the operator is taxed to his utmost. By using such material as he may be able to procure, he endeavors to set forth his conception. Much must be done in a very limited time. He must arrange his accessories, note the position they occupy, that the lines produced conform to the accepted laws of composition; that some object of minor importance does not crowd itself forward to a position of prominence; that the arrangement as a whole presents an harmonious grouping of light and shade, ever bearing in mind that the main subject of his idea must attract the eye at first glance, unconsciously noting the smaller details, grasping the idea in its entirety, which should tell its own story without words.

In this the artist who uses the camera to convey his ideas has more to contend with than the artist who wields the brush can ever have in disposing the different elements of his composition to his satisfaction. We all know how painfully correct the camera is, and with what truthfulness and fidelity it records whatever is placed before it. Usually what it sees is an individual, and a stubborn one, too. No alteration of any importance can be made after the plate is exposed. Every detail, whether of great or small import, must receive careful consideration and due attention, for whatever decision is made at this time is final.

Note the great mental tension and taxation of art knowledge on the part of the man who is forced to take his picture into consideration in all its parts, including the lighting, posing, and expression of his subject in genre studies. When it is necessary to persuade his model (who is not at all times an ideal that literally fills every desire), or explain his idea in full, in order to gain his or her sympathy and co-operation in aiding him to produce his picture, rapid thought and action are absolutely necessary, for the smallest detail of the contemplated picture claims careful consideration, while at the same time the operator is conscious that time is fleeting, his subject is mortal and apt to tire and relax interest and sympathy, grow indifferent to his aims, all of which would be fatal to good results. His picture must be created under these trying conditions and hampered with all of these difficulties, well knowing that as it now appears so will it remain. . . .

I beg leave to call attention to a few things in making photographic art studies. The operator may possess considerable knowledge in composition, of massing his light and shade, but still we have in his production a fixed or stiff appearance, that is, it has not that abandon and freedom of the brush, so much to be desired.

This deficiency can be supplied in a great measure by the use of a few mechanical appliances, such as the flashlight and electrical fan, thereby producing the accidental and free effect of the lines of drapery. By studying the effect produced by aid of these two appliances combined, we find that for the time being the ever-prevailing effect of gravity, when wire or other means are used to suspend draperies, is set aside, and we have more of that

freedom and abandonment, or, in other words, more as one would wish to paint or draw. The possibility of flashlight cannot be overestimated in this direction.

That your models be familiar with your aim and ambition, that they may feel with you and enter into the spirit of your pictures, is of the greatest importance. I have often found it advisable not to make the study with the model indifferent or failing to enter into the spirit the situation demands. It is the soul and feeling placed in your creation that will crown your labors with success. Without this, be your efforts ever so great, in the end they will prove dismal failures.

There certainly is art in photography, and our illustrators and artists of to-day have shown their dependence and appreciation of photography in art as revealed by the truthful eye of the camera, which has had a remarkable influence on modern productions. But this leads us into a field of thought which we have neither the time nor inclination to follow.

I regret to say that some of our brother artists only find sneering criticisms for pictures produced by photography, but to my mind this is simply an acknowledgment that we are encroaching upon the field of the brush. But to do justice, I must say that this "fashion" is rapidly becoming obsolete, and is not the voice of the majority, from whom we constantly hear words of commendation for pictures produced with the camera. When a picture contains an ideal, thes entiment and the poetry of the subject, and has the power to please and gratify the eye, why should it not be classed as art, even though made by the aid of lens and plate? I am sure the unprejudiced will agree with me in this, and give the art photographer credit when credit is due.

In conclusion, let our future efforts sustain our claims that photography has entered the field of art. Close observation and constant study of the principles of composition and accepted theories of art, as brought to the perfection of the present day, will fully establish all the claims we have made for "art in photography."

TWO GOOD SUGGESTIONS.

(Extracted from the address made by C. O. TOWLES at Celoron.)

I WANT to suggest an amendment in the election of officers. I would say that the duties falling upon the Secretary are entirely too much for one man, and make it impossible for him to give to that class of photographers outside the big cities the attention that they so much need. I speak of the photographers that represent the towns and small cities of the country, those whom we never see at a convention, and whom we rarely hear of except as price-cutters. They make up the majority of our fraternity, its qualities and its prices. There is but one way by which we can elevate and reach these men; by rubbing coat sleeves with them, and by this constant contact polish and elevate them to a true appreciation of their profession, stimulating an ambition to be what others are in our fraternity. When we have brought these men into our conventions we will have started them upward. Public appreciation of our art, and better prices must naturally follow. My suggestion as how to obtain that end is in this way: that in addition to the one official secretary that there be one honorary vice-secretary elected or appointed at the pleasure of the convention from each State that is represented in our conventions, whose duties will be to

assist or relieve the official secretary of the work of his State, also to act in the capacity of a solicitor agent and secure new members within his State; to induce every man possible to make an exhibit, if for no other purpose than that of comparison. Then, as the time for the convention draws near, let them go ahead a few days in advance and look after the best interests of their State's exhibits, and make such provisions as may be made for the comfort and pleasure of its exhibitors. I believe an arrangement of that kind would be productive of much good, and bring into good fellowship hundreds of photographers who do not know that there is a photographers' association. In my own little State of Maryland for several years I was its only representative, but I am glad to say that this year, I think, we have about seven with us, and we ought to have at least fifty.

One more suggestion in regard to classification and the making of awards, which, if adopted, I think would be only fair and honest to an element that represents the balance of power in our conventions, but which, like the poor man in politics, has reaped but few of its awards. I speak of those of our fraternity who, by the force and impetus of their ambition, have made themselves creditable workmen, and who furnish the backbone of this fraternity to-day; men who have not had the benefits and facilities that are constantly around their metropolitan brethren; men who have not had the benefit and the opportunity of having at a moment's call the best demonstrative ability of our best processes and of our best manufacturers, but who by unceasing effort have overcome the many obstacles that confronted them, and to-day are masters of the situation so far as the environment under which they are held allows them to go. I refer to those of our fraternity who come from the towns and small cities of our country. These men, many of them, will not make an exhibit for competition. Others have, from time to time, but have become discouraged; not that they think the awards have not been fairly made, but because they realize how useless it is to compete with their more favored brothers in the larger cities. Now my suggestion is that some attention be given to them in this way: Create a class to represent towns and cities from 10,000 down. Allow no man to exhibit in that class who comes from a larger place. Say another for cities from 15,000 to 30,000, and so on. Make the prizes in this class equal to those in any other, then there would be an equal chance for everyone; then small places would compete with small places, and our leaders in the larger cities would have to compete with each other. Provide for the smaller photographers in the cities. A second class would give them a chance, and surely increase the membership of the Association.

THE PHOTOGRAPHER AND HIS PATRONS.

(Extracted from the address made by J. ED. RÖSCH at Celoron.)

LADIES AND GENTLEMEN OF THE CONVENTION: I understand that you have to assume a certain position on this platform to be heard. I will endeavor to place myself in the proper position so that you will be able to hear me. In addressing you to-day I feel it almost useless that I should go into detail or speak on the subject of photography direct. You have already heard, from time to time, how all these various methods are pursued and how these nice pictures are made. You have heard from time to time and have had demonstrations made to you how to

tone prints, how to do dark room work, and how, finally, to obtain the results that you see in this hall to-day. I want to say, ladies and gentlemen, that in my estimation we have right here to-day the most elaborate, the grandest collection of photographs that we have ever had to my knowledge in this Association. After being asked by our worthy President and the committee to address you, as I have said before, I could not think of a thing that would be more new than this subject. The question of the relation that should exist between the photographer and the patron is one which well deserves our consideration. I will endeavor in my own way to illustrate to you what I think ought to be done on the subject. Before doing so I might say that the fact that this subject has not been treated on before direct is because I think it has been overlooked. I do not think that anyone of you has overlooked the fact that it pays you to be pleasant and always ready to smile at your customer. However, ladies and gentlemen, I wish to impress you that it is not only essential to deliver good photographs to the public, but it is highly essential and absolutely necessary that you make a friend of every customer who comes into your gallery. I might say, again, touching this friendship between photographer and patron, that all of us, without exception, have friends in our various towns and cities where we are located, and I want to point out the fact that those very friends stick by you whenever a question of photography arises among you. They recommend you as the best photographer in their city, and I mean to say that you have a prestige in that town or city. Even if you have not, your friends will stand by you, and I assume the right to say that you should make an effort to obtain that same relation from every customer that enters your establishment. You can do it by instructing your help, employés, the first who sees the amateur as he enters the office, that it is his duty to see him and personally greet him in a friendly way just the same as if the customer was an intimate friend. Working on these principles, I am satisfied, ladies and gentlemen (I say ladies, because I know some ladies who are interested in photographic galleries, and many of them, perhaps). I say it pays the biggest revenue, more so than anything else at the end of each year, to have a proper relation between the operator and proprietor, and to give that part of your business much attention. In most of the galleries, as far as I have been from time to time, and I have visited various photographic galleries, in most cases the hardest one to find in the business is the proprietor. He is hedged up somewhere. Many of us are unfortunate in being obliged to be in the operating-room most of the time, but we have opportunities that we can grasp to see every customer who comes into the place. It will pay you if you are doing your own operating to hire an assistant, even if you have to hire a boy and break him in, and get away from the operating-room and meet your people more than you do. It is a question, as I said, that I desire most to point out to you as being one of the most important things in the financial success of our business. Smile at your customers and never frown at them. You can always say "smile, please," to your customers, but you can never get that smile unless you help them smile. I tell you it makes a great difference in your cash drawer; and, again, I say in conclusion, that it is not the main point to deliver good pictures, but try, for my sake, this system, and make friends of your customers, and you will find that you will meet with more financial success in your business.

Dark-room Windows. Commenting upon the recent researches of Dr. Otto Buss, concerning the action of various yellow dyes upon the spectrum, the *British Journal* says:

The use of aurantia, picric acid, auramine, etc., for making dark-room window screens, ought therefore to be avoided, and it is quite possible that the use of these absorbents may account for many fogged plates. Every material used for blocking out light from the dark-room ought to be tested in a quartz spectroscope to see whether it allows any ultra-violet to pass or not.

The Photographers' Copyright Union of England now numbers several hundred members, and has accomplished considerable good work on behalf of the fraternity there. Nevertheless, as the professional photographers of Great Britain number about 5000, the Union believes there is room for expansion in its membership, and as an inducement has removed the subscription fee, so that a photographer may become a member and participate in all the advantages offered by the Union by simply sending in his application, and agreeing not to permit the reproduction of his photographs for less than $2.50 per print.

The Jubilee Number of the *Scientific American*, of this city, published a few weeks ago, contained an excellent *résumé* of the progress of photography during the past fifty years.

Tribasic Phosphate of Soda and Glycin. As an alternative for the caustic alkalies used in developers, tribasic phosphate of sodium is recommended. It is said to have less effect on the gelatine. If the days of "frilling" are numbered, tribasic phosphate of sodium should have a big sale. For cases of under-exposure more of it may be added just as in the case of other alkalies. Those who have delicate skins, and who have suffered from caustic soda or potash, will certainly appreciate the substitute.

Those who have not tried glycin yet should do so. There seems not exactly a prejudice against it, but a disposition to leave it on one side rather for the photographer who goes in for line work, black and white copying, and process work. The formulæ given by the makers with the powder answer quite satisfactorily. The addition of water slows down the action. It will be noticed in the directions that hard or soft negatives can be obtained. The single-solution developer keeps well, but the two-solution, both theoretically and practically, is to be preferred.—*Scramasaxe*, in *Amateur Photographer.*

The use of ribbed glass is advocated for studio glazing as tending to diffuse the light more than glass with a plain surface. The action of ribbed-glass is said to be somewhat prismatic, spreading the light and throwing it to a greater distance than other kinds.

Hydroquinone as a Restrainer. M. Mercier points out that, when used in excessive quantities, hydroquinone acts as a restrainer. A developer was prepared as follows: Sodium sulphite, 100 parts; sodium hydrate, 7 parts; water, 100 parts; to this was added hydroquinone in quantities of 1, 2, 3, etc., up to 40 parts. A plate exposed behind a negative for two seconds to the light of a candle was then cut in strips, and developed with the following results:

With a developer as above containing 1 part hydroquinone the image appeared in

9 minutes; 2 parts in 3 minutes; 3 parts in 2 minutes; 4 parts in 90 seconds; 5 parts in 65 seconds; 6, 7, 8, 9, and 10 parts in 55–58 seconds; 12 parts in 60 seconds; 16 parts in 70 seconds; 20 parts in 85 seconds; 24 parts in 95 seconds; 30 parts in 2 minutes; 40 parts in 2½ minutes.

M. Mercier also states that the activity of a developer—that is to say, the rapidity with which it will develop the most from a short exposure—is exactly proportional to the rapidity with which the image appears. If a developer of 100 parts of sulphite and 100 parts of carbonate instead of caustic soda be used, the rapidity of development is increased by adding up to 12 parts of hydroquinone, and then remains stationary without increasing or diminishing by the addition of hydroquinone. The same results were obtained with eikonogen.

The Washington Salon of Photography proved an unqualified success. Of 430 pictures sent for exhibition, only 80 were rejected, which affords satisfactory proof that the pictorial quality of the work sent was unusually high. The gold cross of the salon was awarded to Clarence B. Moore, of Philadelphia; the silver cross going to Alfred Clements, of the same city. John E. Dumont had four pictures accepted. There were no exhibits from foreign countries. Apparently surprised by the pictorial possibilities of photography, as evidenced by the salon collection, the Secretary of the Smithsonian Institution purchased a number of selected pictures to form the nucleus of a photographic collection for the National Museum. Elated by their success, the committee of the salon proposes to hold another exhibition, under the name of the National Photographic Salon, at Washington, in the spring of 1897.

The Elements of a Pictorial Photograph, published by Percy Lund & Co., Bradford, England, is Mr. H. P. Robinson's latest contribution to the literature of pictorial photography. It is an excellent book for all who seek to know the how and why of artistic work. On every page we are reminded of that other work of Mr. Robinson's, *Pictorial Effect in Photography*, and would advise those who possess the one to secure the other. As the veteran worker says in his preface, his new book is intended to be a manual of hints and suggestions supplementing his earlier books . . . to help the photographer to recognize that there is much more in the art than the mere taking of a photograph. We cordially recommend the beautiful little volume to our readers.

The papers are full of rumors to the effect that the great problem of photographing in colors has been accomplished. The company recently organized in Virginia to make photographs in color has, it is said, acquired the right to work the process of McDonough, of Chicago, and it is expected that the necessary plant will be ready for actual work in a short time. On the other hand, however, in conversation with the two gentlemen who have charge of Joly's color process in this country, we learn that McDonough's patents are of no value, being antedated by those secured by the Joly combination. Those directly connected with both the processes mentioned are very secretive as to their plans; but it seems certain that there will be fighting in the courts before either process is worked commercially.

A British dry-plate maker asserts that henceforward he is prepared to pack his plates so that each plate shall be contained in a light-tight envelope which can be placed in the plate-holder as usual, and by an ingenious device the envelope is withdrawn as the slide of the holder is pulled out for exposure. This should prove a convenience for the outdoor worker.

Otto Von Bargen. *San Francisco.*

A DARING FEAT.

The aeronaut is hanging by his teeth, and in a high wind. A sack of sand which became entangled in the ropes is seen descending.

MOUNTING AND FRAMING PHOTOGRAPHS FOR EXHIBITION AND DISPLAY PURPOSES.

FROM THE CELORON EXHIBIT OF ARTHUR & PHILBRIC, DETROIT.

THERE were many hopeful signs at the Celoron Convention outside of the fine work and the enthusiasm of the crowd. One of these was the decided improvement in taste evidenced in the mounting, framing, and display of the photographs exhibited. To help forward the progressive workers we had several of the displays photographed, and present engravings of them here with a few suggestions which may be of use.

Properly regarded, the mounting and framing of a photograph are details second only in importance to the production of the picture itself. This, however, is a view of the matter which, until quite recently, has been strangely neglected. For many years the photographer's display, whether at the conventions or at his own establishment, invariably consisted of photographs surrounded with liberal margins of white or cream cardboard, enclosed in gilt frames of generous proportions and design. Small photographs were either disposed on a large mount in a design of depressing regularity, or jumbled together

in an incongruous mass, the outlines of which closely resembled the crazy-quilt so dear to our grandmothers. Nobody seemed to dream of any other more effective ways of displaying photographs. But times are changed, and, happily, manners also. The photographer of to-day, slowly but surely responding to the art instruction given him in these and other pages, begins to realize the importance of the mount and frame used to finish the work to which he has given so much care, and of the value of tasteful display in arranging his work for public approval. The subject is therefore one well worth serious attention from all who strive for success at the conventions or in business.

FROM THE CELORON EXHIBIT OF KNAFFL & BRO., KNOXVILLE.

First, let us recall the purpose of mounting and framing a picture. This is not, as many seem to imagine, to embellish or call attention to the picture, but to preserve it from wear and tear, to separate it from its surroundings for viewing, and to give it finish, display, or "setting," by which its appearance is enhanced. Hence whatever, in mount or frame, takes away the attention from the picture must be avoided, and the form, color, and design so selected as to harmonize and "fall in" with the end toward which they are simply the means.

Another important fact to be remembered in preparing photographs for public display is that mounts and frames suitable for this purpose are seldom such as may be used effectively for the finishing of pictures for the decoration of the home. As a general thing the light is softer, and the wall space less crowded and more under control in the home than in a public gallery. The broad principle upon which to work in preparing pictures for exhibition is therefore to select mounts and frames of such a character, and sufficiently bold in scheme, as to separate the work from the influence of its neighboring displays and

insure for it proper consideration. In the public exhibition the photographer can rarely control more than the wall space required for his pictures, and of the size and general character of his neighbor's exhibits he knows nothing until the displays are fixed. In securing the necessary separation of a picture from its fellows care should be exercised that this be done by means approved by good taste rather than by startling effects which will cause the frame and mount to be remembered, while the picture itself will be forgotten. In the choice of mounts and frames it will be obvious that many details apply with equal force to each. Thus, if the subject is forceful and bold in character, both mount and frame should be selected to carry out this character. When a small picture is to be hung amid others of larger size it will be necessary to select a mount and frame of such proportions and color as to convey to the small picture the idea of space, so that it be not dwarfed or rendered insignificant by its bigger neighbors. The color of the mount, which may be complementary or in contrast with the tone of the picture, also determines in part its proportions. Thus a mount of quiet or dark tint may be larger than one of a decidedly light or high color.

FROM THE CELORON EXHIBIT OF A. N. CAMP, JAMESTOWN

The determination of the size of a mount and its proportions of length and breadth have much to do with the effective display of a picture. A great deal depends upon the proportions and character of the picture itself, with which the mount should be in harmony. By varying the proportion of margin the horizontal or vertical lines of the picture may be emphasized or repressed at will. A profitable lesson in this regard may be secured by placing a cabinet print upon mounts of different size and proportion, and the object-lesson will be worth more than a page of reading-matter. In some cases, where the print is of large size and sufficiently bold in character, the mount may be dispensed with, and the frame alone chosen to separate the picture from its surroundings. Examples of this treatment are seen in the Celoron exhibit of Arthur & Philbric. It will be observed that this method of

finishing is more appropriate to subjects such as that shown in the upper right-hand corner of the exhibit than to that seen in the lower left-hand corner. Sometimes this treatment is modified by the introduction of a narrow line between the print and its frame, as in the exhibit of Mr. J. Ed. Rösch. This serves to throw the subject into greater prominence, which, however, is not always desirable, as when the ground of the picture is wholly dark. The harshness of the line in such cases tends to oppress the delicate lighting of the subject, and thus defeats the purpose of the mount or frame. If the reader will run a soft pencil around the white band which encircles the central picture of this exhibit he will perceive the application of the point mentioned.

FROM THE CELORON EXHIBIT OF J. C. STRAUSS, ST. LOUIS.

Turning now to the color of the mount used, opinion is much divided as to the tints best adapted to properly display photographic prints. Practically we are limited to tints complementary to or contrasting with the color of the print. The principal point to keep in mind is that the color of the mount has an influence upon the color of the print. We may emphasize or detract from the sentiment of a picture by the mount according to its tint. Thus a matt gold cut-out will emphasize the warmth of tone possessed by a print in Bartolozzi red; a delicate cream mount and ebony frame will soften the effects obtained with the same print. The highlights of a platinotype print gain in intensity when contrasted with a dark ground such as that given by the Rembrandt mounts of Willis & Clements. Such prints lose their force and appear cold and blue

when mounted on what is known as a chamois-tinted card. The principal fault to avoid is the choice of a mount the tint of which is either a close approximation to the highest lights of the picture or too violently contrasting with its prevailing tone. A valuable lesson may here be secured if the reader will take a black and white print, of the platinum tone now in general favor, and place it on pieces of paper of varying tints, such as dull olive-green, sad-brown, cool-gray, white, cream, coffee color, a mount graded in tint from warm black to gray, and so forth. The effect of the mount upon the print will then be apparent at a glance, and a choice may be made based upon personal feeling. It will be seen that the white mount completely kills the whites of the picture, while the black mount brings these out with added emphasis, causing the shadows to appear gray and foggy. Such an experiment as is here proposed is within reach of all and may profitably employ a rainy day.

The character of the subject, the size of the picture, and the tint of the mount require individual consideration. The prevailing fashion should not be lost sight of, for the public is attracted more by what is current to day than by what was popular a decade past. Just now the narrow gilt frames, such as are shown in the exhibit of Mr. Strauss, are regarded with favor. They are remarkably effective for some subjects, but should be selected with thought. The simplicity evident in the frame at the lower left-hand corner of the exhibit is more appropriate to its picture than the complicated design at the upper right-hand corner. As a rule, pictures framed in this way are more effectively displayed when the framed picture is enclosed in a shadow-box with fairly wide margins of dark material, as shown in the central picture of the lower row of the exhibit.

It may be worth mentioning that, since platinum and carbon pictures are coming into general favor, photographers will do well to avail themselves of the properties of the shadow-box to assist in the proper viewing of these kinds of prints.

FROM THE CELORON EXHIBIT OF J. ED. RÖSCH, ST. LOUIS.

Much that has been said of mounts will form a guide in the selection of appropriate moulding for the framing of a picture.

Finally, we reach the question of arranging pictures for display in the reception-room or display frames. The Celoron exhibits teach us a great deal in this regard, both as to what to do and what to avoid. We have seen something of the importance of careful selection of mounts and frames. The question now facing us is to so arrange pictures of varying size and form, of different colors and subjects, that a pleasing harmony is secured, and each picture receives its due share of attention without destroying the effectiveness of those about it. First, we must choose a ground for the placing of the pictures. This is an easy matter, provided we avoid striking designs, light colors, or pronounced tints. The old-fashioned dark maroon baize can always be relied upon. Dull-brown cloth is appropriate to the display of prints of a warm-brown tone, such as the early aristotype prints. Platinotypes and carbons in warm black seem to look equally effective on maroon, dark gray, or black grounds. Mr. Strauss employed Japanese matting for his background.

When arranging a display the first question to be disposed of is whether the print shall be placed in formal order, such as a geometrical design, or without regard to any particular order. The decision rests chiefly upon the uniformity of size of the pictures. The exhibit of Mr. Strauss at Celoron gives us an example of display showing irregular lines and yet presenting an orderly appearance.

Mr. Camp's exhibit is an example of the use of geometrical design in display. It has a neat appearance, but this treatment, followed too closely, is apt to convey an impression of stiffness and severity. Whatever form is chosen, it should be one which is adapted to ease and pleasure in viewing the pictures. Care should be exercised, also, to see that each picture, so far as is possible, receives the place and light appropriate to its character. Prints of warm tone may be placed with advantage in a fairly strong light, while those of colder tints and strong contrasts of light and shadow may be advantageously displayed in corners away from direct light.

In conclusion, we desire to thank Mr. A. N. Camp, of Jamestown, N. Y., for his courtesy in furnishing the photographs from which our engravings were made. On account of the restricted space about the exhibits at Celoron, perfect reproductions were not possible, but Mr. Camp has succeeded admirably in securing presentable impressions of the displays as they were hung.

OUTDOOR PORTRAITURE.

BY JOHN BARTLETT.

It is so easy and yet so difficult to portray the human face—so easy if one has no regard for beauty of expression; so difficult if one has a perception of the wonderful mobility of the features when animated by the impulses of the mind.

Originality in delineating the expression is kept alive only by observation. An artist must be one in thought, word, and deed, or he is unworthy of his calling. Wherever he goes his eyes should be open to acquire something useful in his profession.

It is a real delight to watch the play of emotion or thought upon the countenance. A trolley car or a railroad station is a theatre with marvellous actors, each playing his part with consummate skill. The photographer has a rare opportunity to be a student of men. We would not have him be a physiognomist—that is, to judge of traits of character by generalizing on

the features; but we would that he were possessed of the faculty of reading the "mind's discernment in the face." We would that he were able to catch the proper expression of the mental temperament of the man or woman who enters his gallery with malice aforethought to be what he or she naturally is not.

To be photographed, with the great mass of humanity, is synonymous with being put out of the natural environment in which they live, move, and have their being. The preparations are elaborately made for the ordeal; the courage is screwed up to the sticking-point so as not to fail at the critical moment, the advent of which is announced with becoming dignity by the operator, who stands beside his camera with the air of a sheriff's clerk, to take advantage of the distress of his victim.

John Bartlett.

OUTDOOR PORTRAIT.

Portraiture requires, above all the other branches of the art, the constant exercise of the inventive faculty.

The conditions for maintaining a pleasing mediocrity are so easily fulfilled that the tendency to "keep invention in a noted weed" is a great temptation, especially with operators who have attained to proficiency in certain pleasing effects which catch the public taste.

I said "catch the public taste," but sometimes I am inclined to think that the public taste is (pardon the expression) "bulldozed" into accepting the modes of lighting the head which the galleries present as "most artistic," while their candid judgment and artistic feeling incline them to reject as unnatural, and therefore inartistic.

What first offends our taste we gradually tolerate and after awhile acknowledge. "Evil communication corrupts good" art as well as morals.

After a study of the showcases of the professional photographer, one is obliged candidly to admit that the effect is more bizarre and sensational than pure, simple, and natural. How one tires of their theatrical poses and strange illumination, made more so by the lead of the retoucher.

One is tempted to say, with Queen Elizabeth, "Oh! paint me in an open garden light!"—for she saw that there was a great difference between such effect and the effects in the pictures painted by the artists of her time. They could not paint objects, as our great painters nowadays do, as seen in the open air; therefore the good Queen Bess was painted literally without shadow. There are portraits by

Gainsborough that would perhaps have satisfied her, as they have delighted me, for many of them really appear as if painted out-of-doors; and in some of the small groups of De Hooge the effects of open broad daylight are shown in perfection.

John Bartlett.

FIVE-O'CLOCK TEA.

I am almost tempted to say that a really beautiful head cannot be photographed with bizarre illumination—the so-called Rembrandt included.

At any rate the amateur need not despair for lack of a skylight, but rather rejoice that he has the marvellous delicate pencil of light more under control out-of-doors for producing simple and pure effects which the artistically healthy will delight in.

How seldom do we hear praise given by a painter to a gallery portrait, whilst he is not stint in expressing his admiration for the work of some amateur who has not always properly timed or developed his plate. This is constantly a source of wonder to the practical photographer, but the painter sees the glorious effects of light and shade, the tone which is not kept single, but repeated or echoed with some difference either in its quantity or strength in other parts of the composition. Nature does for the photographer, perhaps unconscious to him, just what the painter is conscious of in nature, and tries to secure, but does not always succeed in securing. How often does the art critic tell us that there is but "little scope for the exercise of the inventive faculty in photography;" "the photographer must take things just as he finds them. His pictures are mere transcripts from nature." "He may, indeed, possess some selective ability—*to know what beauty is, see where it lies*—yet, after all, his work is only the best possible under the circumstances."

But does not the photographer who happily adopts a subject from nature deserve the credit for invention? He has the faculty of perceiving in nature that which is fitted to the purpose of art and which escapes the ordinary observer; and the only difference between him and the painter is in the medium for expression of the perception. The means of taking advantage of the pleasing effects which nature presents in her out-door illumination are within the power and scope of every amateur who is willing to cultivate his artistic perceptions. One cannot expect to produce a well-illuminated portrait out-doors or in, if one is totally ignorant of what constitutes proper illumination.

Presuming, therefore, that you have an

idea of what you are in search of, I shall try to give you some hints of the times when and the places where nature loves to paint her most pleasing portraits. All times will not do nor all places. You cannot expect to secure beautiful and soft illumination if you expose your subject in full sunshine or in any glare of light.

"There is a time and a season," says the preacher, "for every purpose under heaven —a time to be merry and a time to be sad." So there is a time to photograph and a time to refrain from photographing, as far as outdoor portraiture is concerned. The most favorable time is in the late afternoon or early in the morning. The dwellers in cities have the advantage over the inhabitants of the country, as the sun virtually sets behind the high buildings earlier than the almanac decrees. After five o'clock in autumn the light begins to mellow. It is softened and yet full of sufficient vigor in September and October about five-thirty.

If possible, select a corner of the back building, so that your subject may face the northwest, the dominant light coming from that direction; next partition off the right side, that is, toward the east—this will be the shadow side of the portrait. Now you will manage the top-light, which is the open sky, giving at all times a too allopathic dose for good illumination—a very homœopathic dose is all that is necessary. Too strong a top-light makes the eyes look like caverns; but it will not do to shut it all off, or you will ruin the fine modelling on the forehead and that beautiful line of light down the nose. An unbleached tablecloth stretched a foot or more above the head is sufficient; if more obscuration is needed, a single sheet of newspaper on top of the cloth suffices.

Now turn the sitter's head so that the main light coming from the west models the left side of the face and the forehead. Very often the right side will receive also good modelling. If too much shadow use a newspaper for reflector. It is to be preferred to a bleached sheet, which is apt to give too much reflection and destroy the shadow modelling. I frequently make a small hole in the top-light toward the right of the canopy, which admits just enough light to mould the right side and do away altogether with reflectors.

It requires some practice and also some patience to secure just what you desire, but experience will show you the way to quick perception. It is not to be pre-

John Bartlett.

BY STILL WATERS.

sumed that this method of illumination is the only means of lighting. The principles are a dominant light, striking the head at an angle of about 45°, and the subordinate side light, with a subdued top light. With these conditions the face may be turned toward the south, according to the exigencies of the case.

In the management of groups, especially if you are making a genre or incident picture, much more care and judgment is necessary in the management of the light upon the different sitters, particularly if some of the group are to be posed in opposite directions, but always look chiefly to the light of the faces—secure that, and the illumination of the accessories will be harmonious.

The background, except in single heads, need not be always plain; but the objects upon it, such as pictures, etc., should be so arranged as not to come behind the heads of the figures—all heads look best relieved against a plain ground.

I have only space for a word as to the lens and the developing of the picture. I advise the use of a lens of good illuminating power, which secures good definition without too much stopping down; a small diaphragm is fatal to brilliancy. The larger the aperture, consistent with detail, the more brilliant the result. Let the lens be also of considerable length of focus. Nothing is more unpleasant in a face than distortion due to use of a short focus lens.

There are many new good developers, but I think pyro is still preferable for portraiture; the two solutions giving the operator more control over the production of the image.

By all means let your negative incline

John Bartlett.

CHURCH SERVICE.

to softness. Sacrifice the brilliant look of your negative to the final print. Softness can only be secured by proper timing, a minimum of pyro, and a total rejection of bromide. Use the most rapid plate.

In conclusion, I think there is a field open for the professional photographer by photographing his patrons with the outdoor effect. The public is cloyed with the stereotyped pictures of the galleries—"*all ever the same.*" I find they prefer something new even at a good price, and are not always tempted with offers of fine cabinets for seventy-five cents a dozen.

THE CAMERA IN MEXICO.

W. Scott, Trinidad.

A MEXICAN HOME.

ALMOST as picturesque as the Orient, Mexico has become a favorite resort of the camera-lover. Success, however, does not always attend the enterprises thither. So much depends upon the atmosphere, the light, the time of day, and the occasion in such countries that the tourist cannot share advantages in making pictures in Mexico that are afforded to the resident photographer. The camera is always ready, but the best subjects do not always appear when the camera is in its snappiest mood. Then, moreover, when the tourist finds what appears "very choice" to him, the camera, "on this occasion only," has unfortunately been left at the hotel.

It is true that in Mexico one can hardly turn without finding a picture, but then the enterprise of the busy bee is as naught compared with the street population who buzz about the befuddled view-maker when he attempts a shot. Woe be to him if he cannot command enough of the imprecations of the language instantly to keep off the greasy multitude; otherwise he will get no snap.

The resident photographer, therefore, has the best opportunities. We have recently received several very pictorial proofs of this fact from our valued subscriber, Mr. Winfield Scott, of Trinidad, State of Guanajuato. He is an artist in all respects. A group of four of his pictures appears as one of our insertions in this issue; two more

W. Scott, Trinidad.

YOUNG MEXICO.

are presented herewith. They are creditable in every way. From Mr. Scott's recent letter we gather the following:

"I am making photographs for the Mexican Central Railroad; also have made an arrangement to photograph the National Railroad, commencing January 1, 1897. I have now a very large and complete collection of views of Mexico, illustrating Mexico and Mexican life. I can furnish views of any subject on any railroad now operating in Mexico. I make a specialty of viewing the old-time customs of the people. I have many hundreds of negatives, a collection much larger than any other single collection ever made of Mexico. I get many orders from the United States. I furnish collections in dozen lots at size 5 x 8; unmounted, postage paid, $3, American money, per dozen, every picture a gem."

We are glad to introduce Mr. Scott to the American public.

CRITICISM AND WHAT SHOULD FOLLOW IT.

ONE of our chief embellishments this month is an admirable genre picture entitled "The Culprit," the handiwork of Mr. A. P. Miller, Tunkhannock, Pa. The original picture is 11 x 14 inches, and a copy came to us finely printed on platino paper and tastefully mounted. With it we received a letter from Mr. Miller, requesting us to "criticise" it. Seeing some glaring faults in his picture, we wrote him privately and pointed them out to him. Fortunately we did not offend him. Unfortunately we have too often offended, when, with the very best intentions, we have thus responded to the request to "criticise." So pleased were we with Mr. Miller's manly conduct that we asked his permission to engrave the picture as he sent it, and accompany it by another engraving with some of the faults omitted, together with some critical remarks upon the two. The following generous letter came in reply:

TUNKHANNOCK, PA., September 12, 1896.

MR. E. L. WILSON.

DEAR SIR: You have my hearty permission to use the picture as you desire, and I regret very much that I cannot have more of my work criticised by one so competent to do it.

I am young in both years and experience, and I find my greatest need is *art knowledge*, and such articles as the one on Mr. Brinkley's pictures (in your September issue) certainly hit me exactly. I do hope we shall have something of the kind very frequently. Therefore, to that end I shall be glad to contribute anything I can. At the same time I appreciate your recognition of my picture and feel that I am considerably honored thereby. Let me thank you for your kind words and well-deserved criticisms. Fraternally yours,

A. P. MILLER.

A. P. Miller, Tunkhannock, Pa.

"THE CULPRIT."

This is just the sort of letter we expected from the man who could think out and so sympathetically execute such a conception as is held by "The Culprit."

According to our plan, therefore, we add a few remarks, intending thereby only to start thought on the part of those whom we desire to benefit.

We spoke of the faults of "The Culprit" as being glaring. When we first opened the picture that was the first thought which presented itself. The home-like and natural group was well conceived and very thoughtfully posed, but such prominence was given to the surroundings by the masses of light which they caught that the quiet loveliness appropriate to such a scene was much overpowered. Anyone can see by referring to the large picture used as our frontispiece that improvement would follow the removal of the massive top-heavy roof overhead (worse in the original, because the half-tone screen has tempered it down here); that the out-of-focus sparkles of light nothings at the left

and base of the composition were all unneeded; that the white patches of board, etc., at the right arrested the light in wrong places; that the valuable shade under the shed needed to complete a harmonious background is ruined by kindred spots of light in the wrong place; that the loose board (and the light it catches) between the grandpaternal knees is an eye wounder and bad in composition; that the accessories generally are superfluous in number and scattered without apparent purpose; that the all too violent light is too abundant and the environment too spotty.

The smaller engraving above has been made with some of these faults removed, and as many as could be left out without tool-work. Much more could be said and done. The reader can supply the rest. We invite further criticism. Mr. Miller spoke of Mr. Brinkley's pictures as an example of the spirit in which criticism should be received; we add the letter below, received from Mr. Brinkley since preparing the above.

OXFORD, N. C., September 7, 1896.

MR. EDWARD L. WILSON.

DEAR SIR: I wish to thank you for your criticism on my photos. To me it is a most valuable lesson. All I regret is that I did not consent when you wanted to do this a year ago. We may gather much of value from criticisms and comments on the work of others, but when the work is our own, it strikes home; it hits more forcibly; we can see more clearly where the fault lies, and more readily take in the lesson laid before us. Now I am going to work in earnest. I am going to try to get in the middle of the road and hustle onward. The extra copies of the MAGAZINE (for which accept thanks) will be given to the young lady, who is now out of town.

I hope soon to be able to send you something better. Again thanking you for the honest, generous criticism and most valuable lesson, I am with best wishes, yours very truly,

J. D. BRINKLEY.

Who will be the next volunteer?

THE VALUE OF ORTHOCHROMATIC PLATES.

BY STEPHEN H. HORGAN.

"IF you did nothing else for the remainder of your days but advocate the use of orthochromatic plates to the exclusion of all others, your time would be well spent." This is what Mr. Edward Bierstadt said to me recently; a gentleman, by the way, who through his researches and results on the subject, leads as an American authority.

So, then, we will begin at the beginning, and in the briefest possible way consider what is meant by orthochromatic plates, why they are not in more general use, who are the makers of such plates, and if there is any difference in their orthochromatic quality. All scientific terms will be avoided. Theories will not be considered, the subject being treated just as a professional would approach it to learn what advantage orthochromatic plates would be to him, and if there is any difference in the products of different makers.

In the first place, we can consider the terms orthochromatic and isochromatic as interchangeable or synonymous, as applied to sensitive photographic plates—the one means the reproduction of colors correctly as to their brightness to the eye; the other implies the proper relative luminosity of colors on reproduction; or, in other words, the correct rendering in a negative of the varying degrees of brightness or luminosity

in a subject regardless of the colors it contains.

It is what wood-engravers have aimed to do, that is, to render in black, or white, or monochrome what they term the "tone values" of a painting, portrait, or landscape. For this very reason the *Century* Company keeps Timothy Cole, the distinguished American engraver, abroad, to engrave on wood before the paintings and frescoes of the masters, in order that he may record on his block the true orthochromatic reproduction of these masterpieces.

Photography can render correctly the light, shade, and contour of a plaster cast, or reproduce a black and white drawing, but when the subject before the camera contains color (as almost everything does) then is there misrepresentation. We all know how the golden-haired, blue-eyed little child or the auburn-haired miss has been libelled. How bright-green foliage becomes black masses in a photograph. How the blue of the sky is bleached white until the bright, fleecy clouds passing over it are indistinguishable; and it is needless to state that this is due to the darker colors, violet and blue, operating most powerfully on the photographic film, while the brighter colors, yellow, green, orange, and red, are weakest in their action. As all objects contain these colors in a greater or less degree, it is not too strong a statement to make, that a correct representation is impossible through photography with ordinary plates.

I made a tour through all the photographic stock-houses in New York recently, to purchase samples of all the orthochromatic plates in the American market. From the polite young clerks in these places I learned that the particular brand of plates they sold were the best made. When they were out of orthochromatics I was told (but this in confidence) that all the dry plates of the best makers were now made orthochromatic. Here was a photographic millennium; if all dry-plates were orthochromatic, there would be no need of advocating their use, no others being obtainable, so I purchased four boxes of plates other than orthochromatic, in the hope that this might, in some measure at least, be true.

Now, to test the plates standard colors are necessary. The best I could obtain are those which Prang furnishes to the schools, viz, Prang's standard yellow, orange, blue, green, orange-red, and violet colored papers. A star ten inches in diameter was designed. From this negatives were made with each brand of plates. The light was that of an ordinary studio—the exposures were made in the middle of the day, as rapidly after each other as possible. An assistant developed the plates, and several trials of each plate were made to get the best time and development. The label on the end

TABLE SHOWING THE ORTHOCHROMATIC PROPERTIES OF VARIOUS BRANDS OF PLATES.

	1	2	3	4	5	6	
The proper color values . .	Y	...	O	BG	R	V	
Cramer's slow isochromatic .	Y	...	O	B	G	RV	2 points incorrect.
Cramer's medium isochromatic	B	Y	...	V	GO	R	10 " "
Forbes's orthochromatic . .	B	Y	V	O	G	R	10 " "
Carbutt's orthochromatic . .	B	V	Y	O	G	R	12 " "
Wuestner's orthochromatic .	B	V	Y	O	G	R	12 " "
Lumiere's series B	B	V	...	YO	GR	...	12 " "
Eastman's extra rapid . . .	B	V	...	YO	G	R	13 " "
Cramer's banner	B	...	V	Y	OG	R	13 " "
Seed's Sens 26	B	...	V	.	YOG	R	14 " "
Hammer's extra fast . . .	B	...	V	...	YOG	R	14 " "

of each box of plates was photographed with the charts so that there would be no mistaking of the negatives afterward. Unfortunately, the half-tone cuts herewith do not show the gradations of tone in the original negatives. These gradations have been carefully recorded in the accompanying table, so that the results can be compared.

The first line in the table shows approximately the orthochromatic relations of these six standard colors as they appear to the eye. The yellow being the lightest is designated as 1, and the violet, the darkest color, as 6. The orange is two shades darker than the yellow, and is therefore numbered 3. Blue and green may be con-

CRAMER'S SLOW ISOCHROMATIC.

FORBES'S ORTHOCHROMATIC.

SEED'S "26."

WUESTNER'S ORTHOCHROMATIC.

HAMMER'S EXTRA FAST.

CARBUTT'S ORTHOCHROMATIC.

CRAMER'S BANNER.

LUMIERE'S SERIES B.

EASTMAN'S.

CRAMER'S MEDIUM ISOCHROMATIC.

McCrary & Branson. *Knoxville.*

A DOZEN PRIZES.

AWARDED
AT CELORON, 1896.

FIRST PRIZE, CLASS A., S. DIVISION.

sidered equally dark, and numbered 4, and red 5. So that an orthochromatic plate to be correct should, without a screen, show these standard colors in approximately the following order of brightness: Yellow, 1; orange, 3; blue and green, 4; red, 5; and violet, 6.

Now a glance at the table will show what relation the colors bore to one another when photographed on the various plates, in every case without a color-screen. In the first place it should be stated that the last four brands of plates are not sold as orthochromatic, and therefore should not be compared, except with each other. The Cramer "Banner" possesses the advantage in photographing the violet one shade darker than the Eastman, but this is offset by the Eastman recording the orange one shade brighter than the Cramer "Banner." So honors are equal. The Seed and Hammer plates are identical, and photograph the yellow so dark that they can be called non-orthochromatic.

Of the six makes of orthochromatic plates interesting differences in quality will be found. Cramer's slow isochromatic plates lead the others so far in orthochromatic properties that, as was said in the first international yacht race, "there is no second." Still it must be noted that this plate is still two points incorrect. It photographs the green and the red in each case one shade too dark; this can be said in its favor, however, as well as in the favor of all the other plates, that Prang's standard green is too dark in color for a green. If this plate was a trifle more sensitive to the red, it would be a perfect orthochromatic plate for use without a color screen. The other orthochromatic plates all photograph blue as the lightest color; Cramer's medium isochromatic and Forbes's orthochromatic give yellow the second place; Cramer, in this plate, again puts violet back one shade nearer its proper position, while Forbes photographs orange the lightest, which leaves both plates still ten points incorrect. Wuestner's and Carbutt's possess like properties; violet, the darkest color, photographs lighter than yellow, the brightest, leaving these plates hardly deserving the title of orthochromatic. Lumiere's series B, advertised as specially sensitive to red and yellow, is the next plate, it is the only one that photographs red at its proper value; in every other respect it is no better than the others.

From a study of the table the value of orthochromatic or isochromatic plates can be readily seen. Speed was not considered here, because in photographing a painting, a costume rich in colors, or a landscape, that question is not as important as the proper rendition of the color values. If any additional attention is drawn to the value of orthochromatic properties in dry plates, this article will not be in vain.

A DESTRUCTIVE FIRE.

SOME months ago we imformed our readers of the progress of a new enterprise under the management of Mr. J. B. Mumford: the building and equipment of a complete factory for the manufacture of sensitized papers, at Springfield, Mass., by the National Photo Paper and Chemical Co. This great undertaking has occupied the hands and thoughts of many active workers since January last. For the past few months, since the plant was finished, a corps of chemists and emulsion-makers, with Mr. Mumford at their head, have been busy preparing the various products of the company for the market, and early in August a number of demonstrators was sent out to introduce the National Photo Paper and Chemical Co.'s paper to Eastern photographers.

On the evening of the 10th of August

AFTER THE FIRE.

a sudden and unexplained explosion, followed by a disastrous fire, caused the destruction of all that had been so energetically accomplished, and the accompanying engraving shows all that remained of the factory and its contents on the morning after the fire. Fortunately the employés had left for the night, so that no loss of life was reported. The fire began on the upper floor, which was used as the emulsion-room, containing also the expensive imported coating machines. These were totally destroyed. The contents of the floor below, baryta coating and calendering machines, offices, etc., were also ruined by fire and water, together with the chemicals, etc., stored in the basement. It is supposed that a spark from a passing locomotive set fire to the tarred roof and so originated the conflagration on the upper part of the building. It was a hot fire, and the fumes of the chemicals made its extinction attended by considerable danger to the fire companies. The loss is said to exceed the insurance, which amounted to $35,000.

We are pleased to be able to report that so far from being discouraged by the disaster, the National Photo Paper and Chemical Co. lost not an hour's time before beginning the work of reconstruction. Within forty-eight hours of the occurrence the losses had been adjusted, contracts let for the restoration of the building, and the rebuilding of the machinery begun. Neither trouble nor expense was spared in the endeavor to minimize the vexatious delay caused by the unfortunate happening, and it is expected that the company will have its new papers ready not later than November 1st. The XX gelatine paper will be ready October 1st.

The matt and glacé papers prepared at the factory of this new company, although only before the fraternity for a few weeks before the fire, had elicited the most favorable comments from those who used them; and we hope the company will speedily be in a position to realize the popularity for its products, which it has done so much to attain.

FOR THE BENEFIT OF PROCESS-WORKERS.

MR. STEPHEN H. HORGAN, one of the oldest and best-known American process-workers, makes an urgent call to process-workers in the last number of *Anthony's Photographic Bulletin*, asking their co-operation in the amendment of the present law of copyright. Mr. Horgan claims that by the omission of the words "engraving, cut, or print" from the copyright law now in operation a great injustice has been done to American photoengravers, inasmuch as engravings made abroad at lower prices than rule here may be copyrighted on this side, whereas a book or photograph cannot be copyrighted unless set from plates or negatives made in this country. He says:

"No sooner was this law approved than the publishers rushed to Europe their orders for steel engravings, copper-plate engravings, photogravures, photo-engravings, and engravings of all kinds to illustrate their books and periodicals. Business with foreign engraving houses became brisk. In some lines, however, notably photo-engraving, their work could not compare with ours in quality, so photo-engravers were engaged from here to introduce American methods in foreign cities. The majority of the more skilful of our American engravers were shortly after compelled to give up the business by which they had brought credit to this country. Wood engraving, for instance, which had reached with us a higher degree of perfection than it was heretofore considered capable of, then received its death-blow, and will soon be known as a lost art.

"The magnitude of the engraving business now done abroad for American houses cannot be estimated, but take *Harper's Bazar* as a single example of this loss. Every engraving of any importance in this publication is not only designed abroad, but it is also engraved abroad, and every portion of this work is protected by United States copyright, because its illustrations are engravings. Were they lithographs they would have to be made in this country to be entitled to the privilege of copyright.

"One but need turn to the nearest print-shop to find that all the photogravures and engravings of every description on sale are foreign made. Further than this, the subjects of the pictures are foreign to our life and to our institutions, so that for patriotic as well as for business reasons we should see it that this loophole in the copyright law is closed.

"This is the first time that the subject has been brought to the attention of process-workers, and if they but interest themselves now by writing to their Representatives they can secure remedial legislation during the coming Congress that will bring a revival in all the higher grades of process-work."

PRIZE LIST OF THE PENNSYLVANIA ASSOCIATION.

THE Executive Board of the Photographers' Association of Pennsylvania, at their meeting at the Commonwealth Hotel, Harrisburg, Pa., September 2d, framed the following list of prizes to be competed for at the First Annual Convention, which will be held in Russ Hall, January 26, 27, and 28, 1897,

Grand prize. 24 pictures only: 6 of which must be 16 inches or larger; 6 of which must be 13 inches or larger; 6 Paris panels; 6 cabinets. This prize is a beau-

tiful bronze figure, donated by Hugh Morrison & Son, of Pittsburg, Pa. A firm of photographic enlargers will also give to the winner of this prize a 25 x 30 sepia or water color, suitably framed.

Class A. 8 pictures only, 13 inches or larger: 1st prize, one gold medal; 2d prize, one silver medal; 3d prize, one bronze medal.

Class B. 16 pictures only, cabinets to 13 inches: 1st prize, one silver medal; 2d prize, one bronze medal.

Class C. 12 pictures only, cabinets or larger: 1st prize, one silver medal; 2d prize, one 8 x 15 background (donated). Competitors in Class C must be from towns of 10,000 or under.

Class D. 12 pictures only, cabinets or larger: 1st prize, one silver medal; 2d prize, one 8 x 15 background (donated). Competitors in Class D must be from towns of 5000 or under.

Class E. 24 pictures only, cabinets or larger: 1st prize, one bronze medal and 10 gross aristo-platino paper; 2d prize, 15 gross aristo-platino paper; 3d prize, 5 gross aristo-platino paper. Pictures in this class must be from regularly ordered negatives. See rule on Class E.

Class F. 8 pictures, exteriors or interiors, 7 inches or larger: 1st prize, one siver medal; 2d prize, Wilson's *Encyclopædic Photography;* 3d prize, one year's subscription to the *St. Louis and Canadian Photographer.*

Class G. 12 pictures, any size, animals or birds: 1st prize, one bronze medal; 2d prize, one Bausch & Lomb, 5 x 8 inch shutter.

Special prize No. 1. 4 pictures or more, cabinet or larger: for the best display made with Luxo flash powder, W. P. Buchanan will give a 6½ x 8½ R. R. lens, the winning exhibit to become his property.

Special prize No. 2. 4 pictures or more, cabinets or larger: for the best display made with Blitz Pulver powder, Thomas H. McCollin & Co. will give a McCollin's professional flash lamp, the winning exhibit to become their property.

In addition to the different prizes all exhibits receiving twenty points or over, out of a possible thirty, will receive a diploma, excepting those receiving medals or the grand prize, or exhibitors in special classes.

RULES AND REGULATIONS.

Competitors for the grand prize and Class A cannot compete in any other portrait class, excepting Class E.

Members from towns of 10,000 or smaller may compete in any class subject to the rules governing the same.

When one dimension of picture is given it applies to the length and breadth in all classes.

Ten marks is to be the highest given for any one point, consequently thirty points is the highest that can be given any one picture.

Rule for Class E. In order to encourage improvement in every-day work, as against work made for exhibition purpose only, Class E has been provided. The Board hopes to see a large number of exhibits in this class, as it will more clearly than any other show the status of photography throughout the State. In order to verify the work in this class it will be required that the name of the subject and the date of the sitting be legibly written under each picture.

We have some new ideas which will appear in our catalogue, which will be out about the last of October. If any photographer in the State does not receive one, drop a card to the Secretary and he will forward you a copy. Read the prize list over carefully and select some class to enter, then go to work at once on your exhibit.

We have secured the Russ Hall, which is the finest one in the State for that purpose; it is 150 x 50 feet, is well lighted,

and is right in the centre of the town. Do not say, "Well, I guess I will not go this year," but make up your mind if there is any good to be derived from conventions you will receive your share.

The Board will do all in its power to have you well treated, and to make this, our first convention, a success. Don't think for a moment it is not going to be a success, but watch it grow, and help it by your co-operation and support.

Fraternally yours,

E. E. SEAVY,
Secretary.

NEW CASTLE, PA.

THE EVOLUTION OF WALPOLE NEW PROCESS HYPO.

FEW changes have taken place in applied photographic chemistry which are so marvellous as the growth into favor of the "Walpole New Process Hypo." Only a few years ago the great vessels which sailed from America to the old countries with wheat and cotton came back to port laden with a ballast of hyposulphite of soda. Now it is all changed. Whether cobblestones or emigrants serve now as ballast we know not; but we do know that there is but little foreign hypo used by American photographers at present. The admirable qualities of the "New Process Hypo" have gained for it a mastery which is familiar to us all. There is something almost romantic about it; and there must be something poetic about it, judging from what follows.

A few months ago a delighted dark-room man, inspired doubtless by the appearance of his beautiful prints, fixed up and sent us the following:

GOOD ADVICE.

You may own a magnificent lens,
A camera of perfect parts;
Use a Cramer, Seed, Hammer, or Carbutt,
Whichever's the best in the marts.

You may swear by Albumen or Ilo,
American, Kamack, or Kosmos;
But attainment of perfect results
Is depending, a photographer knows,

On the Chemicals used in the art.
All agree, we're sure you will find,
To get this perfection desired,
Use the Walpole Double Refined.

The publication of this in our pages so affected another happy photographer—Mr. H. A. Brown, 3127 Page St., Philadelphia—that he was moved to send us the following:

With twenty-odd years of practice,
When I see what the other attains,
I've arrived at a *certain* conclusion—
You have got to use *all* of your brains.

It was our intention to use Mr. Brown's very excellent "conclusion" as a text for a practical article, but want of the great essential caused us to defer it.

Now a New Hampshire subscriber has headed us off again by sending us a cheerful song. It clears up the difficulty, and we venture to append it as a substantiation of what we said above. He calls it

THE MARCH UPON WALPOLE.

(*Tune, "Yankee Doodle."*)

Good acid, alum, copper, lead,
Do make a wondrous mixture:
But prints will look flat, dull, and red,
Unless completely fix'd, sure.

If folks would use half common sense
And try "New Process Hypo,"
Their plates would clearer be—less dense,
And printers wouldn't sigh so.

The temper-a-ture you must try,
Before the prints immersing.
Then, my word (sixteen to one), aye!
There'll be no more cursing.

Yankee Doodle Dandy,
Walpole Hypo's handy.
Blame the cost and get the best,
Yankee Doodle Dandy.

Certainly here is a good campaign song for our craft, and it is sure to be much sung.

OUR PICTURES.

THE various pictures which embellish our current number supply material for much profitable study and serve as proofs of the wonderful advances made in photography. They present us with a scene of thrilling interest away up above the world so high, and an example of the wonderful power of the lens to bring to its master almost anything that reflects a ray of light; some of the picturesqueness of a foreign land; a practical "study" for criticism; and some more echoes from the Celoron exhibition.

To Mr. A. P. Miller, Tunkhannock, Pa., we are much indebted for his very natural picture of "The Culprit." It pictures a scene in spirit familiar to all of us who have had to do with little children. It is not without its faults, æsthetically, and Mr. Miller is aware of this. He offers it to his co-workers for criticism and as one who expects to learn much from his critics. We hope then for more comment upon it than we give in leading the criticism in our article on page 460. Let more help.

Messrs. McCrary & Branson, Knoxville, Tenn., were among the first prize-takers at Celoron, and at our request have supplied us with a dozen of their cabinet pictures to form a mosaics inset for our MAGAZINE. A very excellent series of models is thus afforded our readers of the studio. By a sheer accident there are thirteen people in this mosaics of twelve, but we trust no ill-luck will attend it. They are all fine subjects, and as full of suggestion as they can be. We saw no happier man at Celoron than Mr. McCrary—none more eager to learn—none more willing to give of what he knows. He asserts that great advantages came from attending the conventions and from exhibiting thereat. In *Mosaics*, 1897, he will have something to say on this topic, and a fine composition from his studio will be engraved for our annual too.

On another page (459), in an article on "The Camera in Mexico," several of Mr. Winfield Scott's charming pictures of old Mexico appear. Four more are included in a special inset, viz.: 1. "An Ox Team;" 2. "At the Door;" 3. "The Market;" and, 4. "The Pulque Plant"—all fine and characteristic of that country of the tropics.

From the hot sun of the South we are quickly carried to the cool air of the heavens by Mr. Otto Von Bargen's balloon picture—"A Daring Feat." It was a wonderful catch for our photographer, at an instant when the combination of circumstances was most thrilling. The other pictorial features of our number are plentiful, and by the articles they illustrate are all made of service.

AS WE SEE OURSELVES.

IT is always of value to us to study criticisms upon the works of others; to contemplate these criticisms with the works —when the critics know their business. The work may be helpful, whether good or bad. A great deal of the good which might come from prize competitions falls, because only a few can even guess at the elements which influenced the judges to make the awards. M. Wagner's assertion, that "all work takes its value from the prompting motive," should not hold in this case, for if the truth were told it would be found that in nine cases out of ten the "prompting motive" of the displays at our national exhibitions is, to secure a prize of one kind or another. This is a pity. It has been found out, too, that in

some classes of work the competition is very meagre always, and therefore the "motive" need not seem so audaciously displayed. As in literature, so in art there is much display of ignorance and sham. This is a pity, too. And it is true that audacity is not art. And it seems true that a little Bohemian audacity influences the judges sometimes. It is a pity that this even seems so.

In a recent tribute to Mr. Stedman in *The Outlook*, some weeks ago, we read as follows:

"Vitality is, above all things, characteristic of Mr. Stedman. He is alive to the very tips of his fingers; his whole nature is active; there is no passivity in him. Always alert, observant, energetic, he conveys that sense of masterfulness which goes with a strong grasp upon life. His style is condensed, brilliant, rapid; full of artistic touches, disclosing a delicate ear for those harmonies of sound which are always within reach of a true stylist, it is also vivacious, direct, and telling. His criticism is in harmony with his temperament and character; it is keen, acute, and sometimes subtle, but it is distinctly synthetic and constructive. And his poetry is filled with the sense of life; with sympathy, hope, courage, reality.

"The touch of the imagination is always on these elementary traits. There is a fine vein of fellowship with life in all its healthful phases and aspects running through him. No man is freer from the vices of the sham Bohemia so often exploited; no man betrays greater familiarity with that Bohemia which, being interpreted into the speech of the Philistine, means *seeing with your own eyes, hearing with your own ears, following the lead of your own heart*, and holding to the realities of life whenever they conflict with its conventions. This means also freshness of idea and feeling, directness and force in action, constant interest in all kinds of life, and that quick sympathy which instantly becomes active fellowship for help. If the story of Mr. Stedman's personal helpfulness were told, it would go far to dissipate the pessimistic theory that man cares only for himself; but it might add to the burdens of one whose ready kindness and resourcefulness have already been taxed beyond all reason."

To these qualities, would-be artistic photographer, help yourself. They are just as available to you and just as helpful as they are to anyone else in any other vocation. And you must have them.

The exhibition at Celoron was not representative at all. It was largely induced by the prize-offers; but further than naming the classes there was no effort made by the executive to work up an exhibition that would show forth the progress made in our art. The "take-what-comes" principle was followed or let to answer.

It was moved and seconded at Celoron "that a detailed report of everything that has taken place at this convention be prepared in pamphlet form, including the markings of the judges on exhibits, be printed and mailed to every member of the Association." But that will not help those who were not present to see the pictures.

We want some plan devised by which we may study ourselves as we see ourselves in our honest moods.

One day at Celoron we saw an employing exhibitor, his operator, and his printer together examining and discussing their exhibit. Curious to see how they viewed their own work and to know the individual choice of the three, we asked them to state it. Here is a copy of the statement we afterward received from the chief!

"DEAR MR. WILSON:

"Perhaps we have not carried out what you asked for in your letter, but have done the best we could. My choice is the

16 x 20, full-length, sitting figure of the young lady on the tete. I admire the relaxed and abandoned effect the disposal of the figure suggests, and the fine white drapery effects. This picture was very much admired by Mr. MacDonald.

"My operator's choice is the old man's head and shoulders, which was most universally admired by the fraternity and considered one of the finest heads in the hall by Mr. Stein. The picture was interesting from the fact that the head suggested one of those ideal, poetical characters reminding one of a Bryant or a Longfellow, with the half-wild arrangement of the long, white hair; the lighting was such as to exaggerate every line and lineament of the features, yet the chemical effect was so soft that it modified the striking lighting, and made retouching almost unnecessary. The face was retouched very little.

"Our printer's choice is the 16 x 20, standing, full-length figure of the young lady, with the right hand very prettily disposed of on the parasol, and the left hand on the hip. He likes this picture best because of its fine chemical effect, its marked activity, charming expression, graceful, natural pose, and beautiful arrested action of the eyes.

"Trusting this will meet your approval, and thanking you for favors, I remain

"Very respectfully, N."

This may be helpful in the examination of the exhibition pictures which appear on our other pages. Let us all habitually examine our work as we see it ourselves. It may bring us down the ladder of conceit, but it may help us up a step or so to solid fame.

The letter is a very interesting one and worthy as a study of how others look at pictures and why they admire them.

The first prize of its class was taken by the writer.

LONG FOCUS LENSES.

MR. LESLIE SELBY, a landscape worker, whose pictures show the possession of rare discrimination and ability, contributes to the *Amateur Photographer* a paper on this subject which contains much excellent advice. The article is illustrated, and cannot, therefore, be fully reproduced in our pages, but we extract such portions as are of general interest. He says:

Taking for our theme in this article the student of nature who leans more or less to pure landscape, as we ourselves do, let us consider the advantages of long-focus lenses, and the length of focus desirable with a certain size of plate. As we always use one of the, in our opinion, most suitable shape for landscape work, 5 by 7½, what is the length of focus most suitable, and what is to be considered with this size a long-focus lens? We always carry with us three lenses, one of 7 in. focus, one of 12 in., and one of 18 in., the first of which we consider a wide-angle, the second is described by the maker as a narrow-angle, and the third we shall be justified in calling a long-focus lens.

From the purely pictorial point of view, and also for the more truthful rendering of the subject, the last-named lens is certainly our favorite, but then we have to consider the nature of the views to be taken, and also the limitations of our tools. In a district like the Thames Estuary or the Norfolk Broads we shall probably be left with a more or less free hand, but in a more wooded or hilly part of the country we shall probably find that in many cases the use of the long-focus lens is prohibited, and that perchance a wide-angle must be used. Where possible, we should always advise the use of as long a focus as possible.

What is the advantage gained? may be

H. KUEHN, NEGAT. GRAVURE C. N.

EVENING ON THE LAGUNE.

PROCESS PLATES BY CHICAGO PHOTO-ENGRAVING CO.

the question. A more truthful rendering of the subject, that is, distance and foreground will have a more natural appearance, and the whole scene will have its relative parts rendered more as the eye sees them. Who does not know the apparently false perspective, so often seen in hand-camera views of street scenes or interiors, where the houses or background of the picture gradually dwindle down to nothing in the distance, and give the appearance of a street or church a mile long that was really only perhaps a few yards. And if this appearance is so apparent in such views, how much more telling will it be in marsh and fen land, where we have long stretches of flat, relieved, perhaps, in the distance by a clump of trees or a row of cottages! And if in our view there should be a foreground of reeds and rushes, we all know how the near ones will assume gigantic proportions, and those a little beyond them dwindle to nothing. Not only is this untrue to nature, but it will also be inartistic and therefore to be avoided, and by changing the lenses we shall at once notice the difference.

But we shall also find here a difficulty with the long-focus lens that does not trouble us with the shorter one, and that is the difficulty of getting our foreground into the picture. Somehow or other, however, we move the stand, the foreground will not appear unless we point the lens downward, and then we shall find the sky has gone. One of two things will be found necessary here, either to get further away from the scene, or else to lower the stand until the camera is only about a foot or so from the ground. In the latter case we must beware of any tall grasses or other impediments getting in the way of the lens, and in the former case we may find it impossible to get the view from further back, owing to some unwished-for object being in the road.

One feature of the long-focus lens we find of great value, though others who prefer sharp details in every part of the picture will look upon it as a defect—that is, a want of depth of focus. If the foreground is sharp as in the print mentioned, we shall get a delightful softness in the distance (not fuzziness, but merely softness), and we can by judicious focussing get it in any plane of the picture we may desire. But lest the sharpist should be inclined on this account to fight shy of the lens, we may say that we always use it at its full aperture, and that the stops can be used at will to get good definition. Should it be used at full aperture, care must be taken that it will cover a larger plate than the one generally used, as, though we relish softness, we do not like any falling off at the edges of the pictures, so apparent with many lenses used without stops. The lens we use on our 5 by 7½ will cover a 12 by 15, so that we feel in this respect that we are quite safe.

ORTHOCHROMATIC COLLODION EMULSION FOR PROCESS WORK.

HAVING recently been obliged to make half-tone negatives from a number of rather highly colored drawings, and finding that the necessity of making first an ordinary negative upon an orthochromatic plate, and from this a silver print, and then the half-tone negative somewhat too tedious a job, I determined to try my hand at preparing collodion emulsion plates, and sensitizing them myself, and, after considerable failure, success attended my efforts at last, and the following notes may be useful to other process workers:

As I knew that on the Continent an ortho-emulsion, made by Dr. Albert, was used by many process workers, I first tried

this; but, either from my ignorance how to work it properly or some other cause, I did not find it quite satisfactory, there being a tendency to fogginess and want of clearness in the half-tone negative which was fatal for block-making. I therefore set to work to make my own, using the formula originally sketched out by Hübl.

Schering's celloidin was chosen for the pyroxyline—more because I knew it better than anything else—and absolute alcohol and methylated ether; but I soon found that, as the emulsion had to be precipitated and washed, the use of absolute alcohol was rather costly, so the old-fashioned methylated spirit 64 o.p. was used to make the emulsion in the first place.

The method of preparation was as follows: 352 grains of silver nitrate were dissolved by boiling in 3 drachms of distilled water, and sufficiently strong solution of ammonia cautiously added till a perfectly clear solution was obtained. To this solution was added 2 ounces of methylated spirit, and the whole allowed to cool, and then added to 9 ounces of collodion, made by dissolving 175 grains of celloidin in 9 ounces of methylated alcohol and ether. The addition of the silver causes a slight cloudiness, partly due to separation of the celloidin and partly to some of the silver being thrown out; but, if the mixture is well shaken, it clears up somewhat.

The bromizing solution is made by dissolving 244 grains of ammonium bromide in 3 drachms of water and 6 drachms of methylated alcohol by the aid of heat, and, whilst still warm, this is added to the silver and collodion in four or five lots, shaking between each addition. When all has been added, the bottle should be shaken well for at least ten minutes, and then distilled water should be added, in small quantities at a time, shaking between each addition, till the whole of the emulsion has separated out, and this can readily be detected, as, on standing, the emulsion collects together, leaving the clear liquid. The emulsion is now poured on to a double thickness of nainsook, the ends of the same collected in a bag, and tied together round a stick, and suspended in a beaker of distilled water to wash, the water being changed three times in fifteen minutes. It should then be allowed to drain well, and gently squeezed, to free it as much as possible from water, and then dipped into methylated alcohol three times, to still further remove the water, and then either well squeezed, or, as I prefer, to sling the bag at arm's length, and thus get rid as much as possible of the spirit.

The emulsion must not be completely dried, but whilst still damp dissolved in a pint of alcohol and ether, this time absolute alcohol being used to dissolve it. To the solution should be added four and a half grains of narcotine, and the whole allowed to stand at least a week to ripen, shaking it frequently.

To sensitize this for colors is a simple matter, although it takes a little time to prepare the solution; but, having once prepared it, or rather the silver eosine, it may be kept indefinitely in the dark. 10 grains of eosine G should be dissolved in ¾ ounce of boiling water, and to this added 5 grains of silver nitrate dissolved in 1 drachm of water. Allow the precipitate to settle, filter, and wash the filter with boiling water till the washing water is strongly colored, and then with alcohol, and dry in the dark. Collect the dry silver eosine and keep in the dark.

The sensitizing solution is prepared by dissolving 20 grains of the dry silver eosine in 2½ ounces of absolute alcohol to which ammonia is added. The best way to do this is to heat the mixture of alcohol and eosine, and drop the ammonia in very gradually, when the eosine will dissolve; then add 18 ounces of alcohol and sufficient glacial acetic acid to neutralize any free ammonia. The acid must be added

cautiously. Two ounces of this dye solution should be added to every pint of collodion, and this quantity of alcohol should be omitted.

The colored emulsion should be well shaken, then allowed to rest for about five minutes, and then the plates coated and dried at a temperature of 15°C. Hübl recommends their being, when dry, heated for some minutes to a temperature of 30°C., and this, apparemtly, about doubles the sensitiveness; but, so far as my work is concerned, I have found that, without this supplementary heating, the plates are very little, if any, slower than ordinary wet collodion, and, when using them with a fairly deep yellow screen, the color rendering is decidedly satisfactory.

The best developer for these plates is glycin, and the formula I use is the following:

A.	Glycin	½ ounce.
	Sodium Sulphite	1¼ ounces.
	Water	10 "
B.	Potassium Carbonate	2½ ounces.
	Water	10 "

For use, mix in equal parts. Unless in cases of over-exposure, no bromide is necessary.

After fixation—and I prefer for this the much-decried hypo—the negative should be well washed and dried, and, if necessary, reduced to clear up the dots, and for this I prefer ferridcyanide and hypo; but possibly this may be due to the fact that cyanide in any form always affects my head.

I have entirely abandoned pyro and silsver for intensification, preferring metol as it gives a cleaner image. The metol, intensifier is, of course, much on the same lines as the old pyro, in two solutions:

Metol	15	grains.
Citric Acid	10	"
Water	2	"

The negative is first flooded with this till the film is thoroughly saturated, and then the metol solution poured off, and one-tenth of its volume of ten per cent. silver nitrate solution added, and the whole returned to the plate and allowed to act till the desired intensity is obtained.

The above process may seem troublesome, but is really very easy, and the negatives are all that can be desired, and are quick printers.—A. D. PRETZL, in the *British Journal.*

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XIX. THE LOCAL REGULATION OF PRICES.

PERHAPS the most persistent, and certainly the most irritating, difficulty encountered in the practice of photography in the smaller cities is the lack of uniformity and stability in the prices asked for the ordinary kinds of studio work. By the smaller cities I refer to towns of from ten to seventy-five thousand population. By lack of uniformity and stability in prices I indicate business conditions, unfortunately prevalent, in which one studio asks $5 per dozen for pictures identical (as far as the public appreciates) with those obtainable at another local gallery for $3 per dozen; and under which, without apparent legitimate reason, this or that gallery demoralizes the trade of the locality by reducing prices or making "special drives."

I am fully aware that the question of prices and their regulation is almost hopelessly complicated; that it is a question which cannot be determined by any outside body such as the P. A. of A. or a State association; that a plan suited to one set of circumstances will not "work" under

different conditions; and that the various "coercion" schemes proposed from time to time have failed. It is not my intention to discuss the question in all its various ramifications, or to attempt to present an elaborate plan for the relief of all concerned. But I am convinced that it is possible, in certain places and in some measure, to mitigate the evils mentioned, and hence I offer here a plan devised by a veteran who shares my belief in the efficacy of the relief proposed.

It is obvious that the want of uniformity and instability in prices now prevalent is the result of a widespread demoralization. The responsibility for this demoralization has been attributed to the public, to depressed business conditions, and many other minor causes. But a little common-sense thinking will make plain the fact that the real and principal cause is the excessive competition begun and persisted in by photographers themselves. Photographers have "monkeyed" with prices so unreasonably in their selfish desire to "scoop" business that one cannot really wonder that the public demurs at any price asked. It has been so thoroughly demoralized that the photograph—I refer especially to the standard sizes, such as cabinets, etc.—has no longer any definite value, and, naturally, it has become with the photographer's patrons simply a question of getting what they desire at the lowest possible figure. The public has little respect either for the photographer or his prices. He discounts his business integrity year in and year out by offering "during the summer only" pictures at $3 per dozen for which during the winter he avers his price to be $6 per dozen. He advertises his finest grade of work at $2 per dozen, and by dint of wheedling and persuasion at the desk makes nine-tenths of his patrons pay twice that amount for what they desire, and so forth.

If photography is to be made a more profitable and more respectable profession, it is evident that the prevailing demoralization must be stopped. The public must be made to give more respect to the photographer and his work and prices. There is need of a campaign of education. It is easier to pull down than to build up, and the education of the public, in the face of the demoralization of to-day, will naturally be a work demanding patience and organization. But it can be done here and there, and is worth a trial. Here is the plan:

Let us suppose that we are to deal with a locality having a population of twenty-five thousand. There are some ten photographers settled there in business, and prices range all the way from "four diamonds for a quarter" to $6 per dozen cabinets. In all such towns the bulk of the respectable business is done by less than half a dozen galleries, where from $2 to $6 per dozen is obtained for cabinet pictures and proportionately for other sizes and styles. The photographic trade of the place is demoralized, and each gallery gets all the business it can obtain by devices of its own. How shall prices be regulated and business order regained in such a town? Let the proprietors of the galleries asking from $2 to $6 per dozen for cabinets get together for a business conference. This meeting could be called by the two leading photographers. Those attending the meeting should first form a Photographers' Guild, having for its scope the furtherance of the business interests of its members. On this broad basis officers should be elected and regular monthly meetings arranged for. The first business of the guild, for which it was organized, should be (*a*) to advertise its existence as a business organization in the local newspapers, and (*b*) to discuss the general sizes and styles of work made at the galleries of its members, with a view to the preparation of a *scale of minimum charges* for each size and grade of work. It would, of course, be the prime

condition of membership in the guild, that each member bind himself not to produce work at a price lower than that fixed by the *minimum* list.

What would be gained by this which was not hitherto possessed by the photographers of the town? First, there would be the direct benefit of the conference, the beginning of a desirable business fellowship, the disappearance, possibly, of some hard feeling. Second, in striking a minimum price for the lowest grade of cabinet pictures doubtless the $2 per dozen competition disappeared and $3 work took its place. This would directly benefit the $2 man, and indirectly benefit the others, inasmuch as it assured them against the desperate competition which must be waged at such a low price. They would all have the protection of a mutual understanding which bound them not to accept lower than a certain price for this or that sort of work. Business could be done upon a settled and known basis; there would be no surmises as to whether they would have to meet this or that "cut-rate" or other "special inducement." Each member would still be free to introduce new styles or to push his business in any way that offered, provided that he held honorably, in spirit as well as in letter, to the minimum charge agreed upon for the standard lines. And, finally, the frequent advertising of the Guild, informing the public of the organization of the photographers, of its aim to put the practice of photography on a higher level, and of the co-operative spirit it represented would undoubtedly win respect and approval from the better class of citizens. The members of the Guild, advertised in its periodical announcements, would gain individual advertisement, would be better able to meet their patrons on a profitable business basis, and by their frequent meetings with each other would find many details of business which could be arranged to their mutual profit and the better conduct of their studios.

PRACTICAL FORMULÆ.

Pyro and Metol Developers. For hand, camera, and instantaneous work, J. W. Hodges, in the *Photographic News*, recommends the subjoined developers:

No. 1.

Metol	40 grains.
Hydroquinone	40 "
Sodium Sulphite	1 oz. 2 drs.
Water to	10 ounces.

No. 2.

Sodium Carbonate	1 ounce.
Water to	10 ounces.

For use take equal parts.

Or it can be used with more convenience and equal success in one solution, as follows:

Metol	38 grains.
Hydroquinone	20 "
Potassium Bromide	10 "
Sodium Sulphite	2½ ounces.
Sodium Carbonate	24 "
Water	20 "

With plates not inclined to fog, the bromide may be omitted altogether. To those who prefer the softer results obtained by pyro I can recommend from practical experience a good pyro-soda formula:

No. 1.

Pyro	80 grains.
Potassium Metabisulphite	20 "
Water to	15 ounces.

No. 2.

Sodium Carbonate	2 ounces.
Sodium Sulphite	2 "
Potassium Bromide	10 grains.
Water to	15 ounces.

For use, take equal quantities of each.

Brown-black Tones. A toning-bath which gives agreeable brown-black tones with gelatine-chloride paper is composed as follows: Acetate of soda, 84 grains; sulphocyanide of ammonium, 28 grains; sulphite of soda, 3 grains; gold chloride,

2 grains; water, 16 ounces. This bath, which should be made up at least twenty-four hours before use, may be used repeatedly by adding a little gold after each toning.

Fumed Gelatino-chloride Paper. A writer in the *British Journal* draws attention to the fact that the sensitiveness of gelatine and collodion papers may be increased by fuming the paper before printing, as is done in the albumen-paper method. He claims that with matt-surface papers, which are to be toned with platinum, this modification produces greater depth and richness in the prints. When fumed gelatino-chloride paper is used in printing, the negative must be thoroughly varnished or a goodly crop of silver stains appear and the negative will be ruined. It is also pointed out that a soft print may be obtained from a negative possessing harsh contrasts by immersing the paper for one minute in a 5 per cent. solution of sodium phosphate; if, however, the negative is extremely thin and flat, such as results from a hand-camera exposure with a slow plate, a good print may be secured by immersing the paper in a 2½ per cent. solution of potassium bichromate.

Eiko-metol Developer. Writing in the *News*, "Phœbus Junius" says:

"While on the subject of hand-cameras, I will give you the formula for a developer I have, after considerable experiment, found most excellent for snap-shot work. It not only admits of shorter exposures, but produces negatives of great softness and clear shadows, showing no tendency to fog, no matter to what extent development is prolonged. It possesses, particularly for tourists, the further advantage of being a one-solution developer, but will keep almost indefinitely, for even when considerably discolored it seems to lose none of its qualities:

No. 1.

Eikonogen	2 drachms.
Metol	40 grains.
Water (cold)	10 ounces.

No. 2.

Sulphite of Soda	2 ounces.
Carbonate of Potash	6 drachms.
Potassium Bromide	30 grains.
Water (hot)	10 ounces.

When cool add No. 1 to No. 2. For development use one part of this solution to three parts water. A correct exposure will be fully developed in four or five minutes. Continue development somewhat further than usual, as negative loses density to a slight degree in the hypo. Always keep a 10 per cent. solution of bromide handy in case of over-exposure. I have developed as many as ten films in succession with one mixture, but do not recommend more than three or four to be developed without strengthening the solution from the stock-bottle."

Stripping of Ordinary Negatives. It is sometimes desirable to convert an ordinary plate into a stripped plate, in order to obtain a restored negative.

The following effectual plan is a modification of that proposed by E. Liesegang. The plate after development is treated for fifteen to twenty seconds in the following solution:

Water	100 parts.
Formal Aldehyde,	50 "
Glycerine	5 "

Drained off and thoroughly dried, the edge of the plate is now cut round, clean and clear, to the glass with a sharp knife, and then placed first, for three or four minutes, in a 20 per cent. solution of carbonate of soda, and then immediately, without washing, in a 5 to 10 per cent. solution of hydrochloric acid and water. In consequence of the violent and sudden evolution of carbonic acid gas the film is completely lifted from the glass. It is re-

ceived under water upon a plate glass prepared first with French chalk and then flowed over with collodion; the film is squeegeed down to the collodion film by means of a rubber, and dried. When dry the film is collodionized, and can easily be removed from the glass.—*Photo Correspondenz.*

EDITOR'S TABLE.

So IT is said everywhere, as follows: We were much gratified with your report of the convention at Celoron. Also with your last issue. We look forward to the arrival of your MAGAZINE always with much pleasure, for we always find a great deal in it to interest us. MCCRARY & BRANSON, Knoxville, Tenn.

RECOVERED.—It is with much gratitude that we announce that our old friend and the enlarger, E. LONG, Esq., Quincy, Ill., has so far recovered his health as to be able to attend to business again. We rejoice with him. His new manual on *Pastel* is ready and is announced elsewhere.

A SPLENDID OPPORTUNITY.—Our foreign friends and others who are looking for business opportunities in America would do well to inquire as to the *Process Plant* offered for sale herein. We have been acquainted with its work and workings from the start, and know that it is one of the leading ones of the world, making the very best work. The owners are entirely reliable, and every statement they will make concerning their plant can be believed. The reasons for the offer of sale are, we know, the very best, and the opportunity is a first-class one.

THE JEX BARDWELL HOME FUND is making fair progress. Keep it alive in your hearts, fellow-workers, and, as soon as times permit, let us complete the work.

A GUIDE TO PASTEL PORTRAITS ON SOLAR ENLARGEMENTS.—This little manual, devoted to a branch of studio work worthy of closer cultivation by professional photographers, has just been published by E. LONG & SON, as a companion volume to their already well-known guide to crayon portraiture.

Its fifteen chapters, clearly and simply written by a practical pastel worker, together with the pastel color-chart accompanying the book, offer a reliable and concise course of instruction on the subject, and should be in the hands of every photographer. The price is $1 postpaid, and copies may be obtained from the office of this MAGAZINE.

To facilitate the instruction of readers of the *Manual*, Messrs. LONG & SON have prepared a special outfit of materials, consisting of the above-mentioned instruction book and color-card ($1), a colored study (50 cents), a solar print of colored study on pastel board 14 x 17 inches (75 cents), a box of pastel crayons, 40 selected colors ($1.50); a brush (15 cents). This complete outfit may be had for $3.50, and orders sent to this office will have prompt attention.

WE have received from the optical works of C. P. GOERZ, Berlin (American branch, 52 Union Square, New York), a complete catalogue of the goods manufactured by this enterprising firm. Full particulars are given in its pages of the celebrated Goerz anastigmats, Goerz-Anschutz hand camera, Goerz exposure shutters, and other apparatus.

MR. W. A. NYE, the New York representative of the Hammer Dry Plate Co., of St Louis, paid us a brief visit a few days ago, leaving, as a useful souvenir, Hammer's little book on *Negative Making*. Mr. NYE informs us that Hammer plates are steadily winning in popular favor, and that the factory is being run at its largest capacity to keep pace with the growing popularity of the Hammer plates.

THE ALBANY ENGRAVING CO., ALBANY, N. Y., whose announcement may be found in our advertisement pages, send us a number of specimen letter-headings, book plates, line and half-tone engravings. This engraving company possesses every resource known for the turning out of the finest grade of artistic reproduction work. We recommend it to our readers who may desire letter-headings, business cards, or engraving.

NEW ACCESSORIES are in request at this season of the year. The prevailing styles are such as are

suited not only for use in the gallery, but also serviceable for reception-room and home use. The solid grounds now so widely used indicate a natural preference for accessories which are real, in place of the imitation furniture used in the past. Mr. C. A. SCHINDLER, West Hoboken, N. J., is one of the oldest and most reliable manufacturers of such accessories, and his stock is well worth the attention of our readers. Designs and prices will be sent by Mr. SCHINDLER to those who will apply for them, stating their special needs.

KLAY'S MULTIPLYING PLATE HOLDER, by which it is possible, nay, an easy matter, to make from two to twenty-eight pictures on a cabinet plate, is to be one of the most profitable business bringers of the fall season now opening. Mr. PETER DILLER, Bluffton, Ohio, the owner of Klay's patent holder, writes us that the demand for these holders has remarkably increased of late, and that few photographers seeing one can resist the temptation to buy it. The attractiveness of the multiple pictures, as a novelty, is such that the new business they bring pays for the holder in a few weeks. Hence it is a safe and profitable investment.

THE STANDARD DRY PLATE CO., LEWISTON, ME., whose advertisement elsewhere should be seen, announces its intention of discarding the name *Climax*, used for their plates for a year or so past, and of returning to the use of the old name, "The Standard Plate," under which their specialties first proved their merit to the fraternity. The new Standard plates are obtainable from all dealers. All plates will be carefully tested before leaving the factory, and every means taken to insure satisfaction to patrons.

FRAMES AND THE DISPLAY OF PHOTOGRAPHS are matters now receiving attention from progressive workers everywhere, in preparation for the new season opening. The article on this subject on another page is one which will prove helpful. An announcement made by the International Co., of Chicago, in our "Specialties" page should also be seen. This firm is offering some attractive novelties, particulars of which may be had on application.

THE LOVELL DRY PLATE CO. (C. O. LOVELL, General Manager) is a new firm organized to manufacture dry plates at Portland, Me. Mr. LOVELL is well known all over the country as having, for some years past, managed the sales branch of the Standard Dry Plate Co., and in that capacity built up the great popularity of the *Climax* plates. The company has a well-equipped plant, and every facility for producing plates in large quantity and of good quality. The new *Climax*, as announced by the Lovell Plate Co., is to be better than the old plate of that name, and Messrs. E. & H. T. ANTHONY & Co. are to be special agents for the firm. We bespeak the good-will of our readers for this enterprise, which has our cordial good-wishes for its success.

THE LEVYTYPE CO., OF PHILADELPHIA, sends a copy of the award certificate just received by it from the World's Fair Commissioners. The Board of Judges, headed by Dr. H. W. VOGEL, in making the award, praise especially the delicacy and finish of the work produced by this old-established engraving house.

"*Mosaics*," 1897, is almost ready for press. The new volume will be superbly illustrated, and will contain more interesting information for professional photographers than any of its thirty-two predecessors. Further details will be given later. A few copies of 1895 and 1896, in paper covers, still remain unsold. Fifty cents each postpaid, or 75 cents for the two volumes.

CAUTION TO THE FRATERNITY.—We desire to call the attention of our readers to the announcement of the Mallinikrodt Chemical Co., on the "Specialties" pages of this issue. The evil they complain of is a grevious one, damaging alike to the honest photographer and the manufacturer. Let all help to throw light on the deception.

A REMARKABLE SHOWING.—At the recent convention of Germen photographers held at Trin Germany, August 25th to 29th, the following American workers exhibited: J. Ed. Rösch, St. Louis; P. MacDonald, Albany; J. C. Strauss, St. Louis; C. M. Hayes & Co, Detroit; W. J. Root, Chicaco; John Rösche, White Plains; Gilbert & Bacon, Philadelphia; and A. N. Camp, Jamestown. All these received the highest award (silver medal). Dana, New York, and Bowersox, Dayton, were awarded bronze medals.

THE SECOND SERIES OF PHOTOGRAPHIC STUDIES BY FALK is rapidly disappearing, and, like the first series, will soon be out of print. We would urge all of our readers to secure a set of these beautiful pictures without delay. The set of 48 photographs is sent post-paid on receipt of one dollar.

WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

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ON THE GROUND-GLASS.

FROM California to Maine, and from elsewhere, *The Ground-Glass* receives the information from its readers that "there is a dearth of business at the present time." But everybody writes and talks hopefully, believing that "after the Presidential election there will be abundance for us all to do." With this hope, all intelligent photographers are pushing with all their might to prepare themselves in every way for the good time so near at hand. This is right, and it is wise. Not only should the artist-photographer have his studio and his dark-room in perfect working trim, but as a business-photographer he should be on the alert to secure such novelties and inform himself in such directions as will enable him to offer to his patrons all the advantages provided for by the wondrous evolution of the business of photography.

With the hope of encouraging and helping in all this, *The Ground-Glass*, at this time, will be devoted particularly to *business*. In last summer's peregrinations the conductor noticed a decided increase in the production of pastels. Some of our most eminent workers have been finding profit in this class of work for a year or two, and by their enterprise are building up a fine demand for it from the public. The specimens shown in the reception-rooms are of the first class.

It is not so difficult now to create a taste for pastel pictures. Their production is now readily possible for all good photographers. The difficulties and the failures have been reduced to a minimum by the earnest endeavors of the veteran enlarger, Mr. E. Long, Quincy, Ill. His popular treatise on the production of crayon pictures has been followed by another on pastel painting which is very practical, very thorough, and very complete. It is supplemented by a color-chart, and the very best selections of colors are provided, with an example of work; all these at a nominal price. The "outfit" and the book will start anyone in the "business." It is to help "business" that *The Ground-Glass* mentions it. More is said about it in other places. All may be read with advantage.

The Ground Glass believes it focusses upon another chance for business for the photographer—not so far away either—which it ventures to mention. Many have not given any attention to x-ray photography, or radiography, as it is more properly termed, thinking it of no particular interest to them. Nevertheless, the application of radiography has been increasing very rapidly, and the demand for its services has become widespread. This demand will continue to increase. The busi-

ness-photographer is the proper one to control the business advantages in it. The scientist will appeal to him for help. There is profit in it, which the photographer may have if he will attend to it. If he wont, it will, like photo-engraving, make a branch for itself and develop alone. The methods have been greatly simplified and made easy for anyone. The apparatus of the best kind has not been so readily obtained, but that drawback has also been overcome. For this we are indebted to the enterprise of another veteran, Mr. John Carbutt, Wayne Junction, Philadelphia. As the first to manufacture perfect emulsion-plates for the practice of radiography, Mr. Carbutt naturally fell in with noted scientists who were working the new discovery. He soon saw that it was difficult to obtain proper appliances, and so, to enable him to encourage photographers to take advantage of this new chance for business, he has, after much study and consultation with the manufacturers of apparatus, planned an outfit for the practice of radiography which fills every requirement. Much credit is due to him for this. The photographer who makes it known that he is ready to practice this new reach of photography will find profitable business coming to him. *The Ground-Glass* will be understood as making these suggestions with sense. Judgment must be used in all cases as to whether these matters of business are available for you or not.

There *is* a matter of business, however, personal, between you and *The Ground-Glass*, and which leaves no room for discussion, but needs meditation. *The Ground-Glass* knows that the editor of this MAGAZINE is making great preparations to increase its usefulness and its beauty for 1897. Although he has edited and published it thirty-three years continuously, he is aware that "there is always room for improvement." To keep apace with the growth of photography, advantage must be taken of the improvements which photography makes possible. One of these, in our case, is in the direction of more attractive illustrations and embellishments. These will be lavishly provided for 1897, so that full-page photographic studies by various processes will appear in every number, as of old. A way to do this has been found, although the old methods are yet forbidden by the United States postal laws. Negatives from our leading masters in, and of, photography are to be used—several are being printed at this writing. It will be necessary that each picture serve as an example of first-class photography, and such will be the case. This being so, as stated above, there is no room for discussion as to the fact that it is to the business advantage of every subscriber to renew his subscription surely, and as promptly as possible. No photographer who desires to succeed can afford to be without the monthly visits of this MAGAZINE. This is business.

During the past year, more than usual, a number of our generous subscribers, impressed with the usefulness of our MAGAZINE to themselves, have introduced it into the studios of fellow-workers, either by persuasion or by presentation. *The Ground-Glass* is convinced that all such acts are *good* acts, and that they well repay for the effort made.

We want to encourage this sort of business, and have, therefore, determined upon a system of reciprocation—of premium-giving—which will be announced elsewhere. It should be a matter of pride with practical photographers to support at least one creditable advocate which they can take pride in showing to their patrons on occasion, and whose editors consider their interest as a personal matter. There yet remains in the minds of the public, and especially in the minds of many newspaper and magazine publishers, considerable of

the feeling that "photography is a Bohemian business" without any rights of consideration or property, although all these are very ready to avail themselves of the usefulness of our art. This is treating us as if we were brigands. There are many contests in our behalf yet to be fought. Will you help support the one MAGAZINE that has been and is every ready to take the lead in these matters, and whose whole life, thought, and labor are devoted to you? This is business. Shall we not hold together generously for 1897?

The Ground-Glass sees other promising chances for business reflected upon it. One of these is growing out of the grass-walking and dew-wading habit which has come to the front, known as the "Kneipp Cure." For the practise of this cure men, women, and children are made to incline to the belief that it is a good thing to take off their shoes and stockings and any other foot-gear, and wade in the first wet and cool grass found convenient.

The fact that several of the newspapers have connected the interests of the new cure with the politicians of the time has led *The Ground-Glass* to believe that there will be a great future in the business when the fall election is over and the defeated party takes to grass-walking as a method of killing remorse.

Of course, in a great popular movement such as grass-walking is sure to prove, there are always a certain number of skeptics who pooh-pooh it and poke fun at it, just from a pure spirit of mischief. These are men who go to a photographer, sit for a lot of negatives, get the proofs, and never return them or give an order. There is business in this new "fake" for all of us. One of these individuals complained of a serious objection which he has found to the alleged "early-morning-dewy-grass-barefooted cure." He states that he has suffered from early childhood with bow-leggedness, and his wife read about the cure in the paper and suggested that he try it. He did so, caught a terrible cold, and stained his feet so with green from the grass that it took three days and three dozen lemons to get them clean again. He wants to know what the grass has to do with the cure, anyway.

The photographer should not be discouraged at this. What he should prepare himself for must be the *photographing of feet*, before (the feet grow larger from practising the "cure") and after (when the feet are bandaged because of glass, bees, snakes in the grass, etc.) treatment. We learn that it takes a long time to become a Kneippist and a regular, hardened, six-day-go-as-you-please grass-walker. Persons must use the greatest care in taking up the system. Hence there will be demand for frequent negatives as the "cure" works.

The main feature of walking barefoot in the dewy grass in the early morning or evening hours is the shock which occurs to the lower extremities. This draws the blood from the upper part of the body, and affords relief to the seat of the disease from which the patient is suffering. If he suffers from headache, the blood is drawn away from the head to the feet, etc.

It will be seen, therefore, that orthochromatic plates must be used in the beginning of cases like the last; and a sure sign of a complete cure will grow from the fact that an ordinary "Anchor" or "Seed 26" (with a Hammer) can be used with success.

Frequently the frozen ideas of the past are thawed out and presented as fresh when they are not fresh. There has been no cold-storage business employed by Mr. Peter Diller in the "push" he gives to the "Klay Multiplying Holder," however. This excellent device seems to be growing

in popularity here with as much speed as it is in the European countries. It is mentioned here because it is a business opportunity which has not been lived up to as fully as its value deserves. Look into and study the chances it gives and the power it puts in your hands. It is worth your while.

"Buccomancy," or the art of reading character (past, present, and future) by the mouth, is again coming into fashion. As far back as 1850, we believe, William Rogers, who was a prosperous dentist, discovered the art and expressed his views thereon in a work which may be found at the Academy of Sciences. "Show me a man's mouth," said Rogers, "and I will tell you what he has been, what he is, and what he will be." He added that this new system of divination was based on the teaching of the most celebrated physiognomists and principally upon the discovery of a buccal alphabet; that is to say, upon the characteristic and tell-tale signs of the human mouth.

Certain scientists to-day are studying this system of his; therefore it behooves the alert business-photographer to be ready to lend a hand. The case is alarming for us from one standpoint, for this growing fashion causes some sensitive people to fear to patronize the photographer. There are those who do not like their face to tell too much. A more cheerful view of the matter (just taken by *The Ground-Glass*), however, leads to the belief that there will be more attention given to the cultivation of the mouth from this time on, and that the photographer will not suffer, except where it gives him pain not to overdo the retouching of the negative. It is said that in connection with the mouth the chin, cheeks, lips, teeth, and nostrils also make curious disclosures of character. It may be that we shall all have to study up the Bertillon system. *The Ground-Glass* is ready.

As "thoughts are things," according to Prof. Elmer Gates, we must, as artists, try to make the best of our subjects by giving them good thoughts—*i. e.*, such thoughts as will influence you and your subject both in obtaining a characteristic result. This method is not new, as the following anecdote proves:

A former president of the Royal Academy, Sir Francis Grant, had the knack of giving a certain air of distinction to the subjects of his portraiture, although his works were often "very much to seek" in the higher qualities of art. For "Masters of Hounds" and puisne judges he was quite competent, or for the squire's lady in a red petticoat, but he was not so happy in the expression of intellectual subtleties. Thus writes Lord Selborne, in his recent *Memoirs*, of his portrait by Sir Francis: "I have always myself valued the picture for the sake of those who gave it, but as a likeness and a work of art it was not approved by good judges. This was not wonderful if it was executed upon the principle explained to me by Sir Francis during one of my sittings. 'I suppose,' he said, 'a man to think himself an Apollo, a woman to think herself a Venus, and a mother to think her children Cupids. So I begin with that idea, and then work from the head of my sitter until I have obtained a sufficient likeness.'"

Speaking of Prof. Gates reminds *The Ground-Glass* of some recent assertions advanced by him which should not be overlooked by the makers and users of orthochromatic or isochromatic plates, for here is business for both of them. "Human emotions are told by colors," says the savant. For example, "guilt gives a pink tint," while each emotional product, treated with certain liquids, shows a distinct color of its own, by which it may be distinguished at any time. He proceeds thus:

The perspiration or the saliva (the emo-

tion products can be found in other excretions and secretions of the body as well, but the two mentioned are the most convenient) is collected on absorbent cotton and the matter afterward removed from the cotton by such solvents as alcohol, sulphide of carbon, ammonia, or ether. Following this the solution is treated with either chloride, phenyl-silico, or idodide rhodopsin, and the resulting precipitates are differently colored, according to the particular emotion the subject was under.

Anger, grief, fear, worry, remorse, and guilt are the emotions Prof. Gates has given the greatest amount of attention to.

The chemical products of these vary widely in the tints and tones they assume. Very nearly the whole range of the spectrum is to be seen in a complete collection of these chemically-treated emotions, and among the colors it may be instanced that guilt is pink, having been treated with selenic acid.

Where is photography "in it?" asks the acute business-photographer, ever on the alert for his 16 or 1. It is in making photographs of emotional spectrums. It will become the fashion for persons to carry spectrum photographs of their emotions in their vest pockets, so as to—well, one thing is certain, it won't take photography long to find out a way to be useful in this new reach of psychology, and become a helper here as it has been in all the other sciences.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XX. HOW MR. W. M. HOLLINGER WORKS.

ALONG with some examples of very creditable work from an Idaho subscriber, I have received a letter which touches upon a matter of general interest to the fraternity. My correspondent says: "I regard with much favor the kind of portraiture represented in the portraits by Hollinger, given in the July MAGAZINE. Can you tell me in what my treatment differs from his? I do not seem to get the rich blacks and force which distinguish his work from that generally seen."

The question is a pertinent one. My correspondence tells me that the Hollinger portraits have set many photographers thinking and working along lines new to them, but really as old as art. It was for this that they were published with the article I wrote to accompany them. To answer the queries of many photographers, similar to that given above, I paid a visit some days ago to the new Hollinger studio on Fifth Avenue, Mr. Hollinger having removed from Dayton to New York since my former paper appeared in these pages.

Mr. Hollinger received me very pleasantly, and frankly answered all my questions—two things which do not always happen when one visits a photographic studio in search of specific information likely to benefit some "other fellow." What I there learned shall, as far as possible, be recorded here.

Before we can discuss how Hollinger's methods differ from those in general practice, we must refer back to the pictures and the article at page 475 of the July number of the MAGAZINE.

In the pictures we see the results; in the accompanying paper I endeavored to briefly analyze the distinctive qualities of the work. To put in a nutshell what was there said, Hollinger's portraits possess the qualities which are recognized as belonging to works of art—qualities rarely found in professional photographic work. Not that he is the only man producing

good portraits, for Ruffo, Hollyer, and many others have equalled if not surpassed him; or that all his work is faultless, for I have seen examples which offered abundant opportunity for criticism. But his work certainly marks a decided advance, as far as this country is concerned, and deserves the praise it has received from men of standing in photography here and abroad.

Now, about his methods. Of course I cannot give a definite formula for the production of artistic work. And, therefore, what I have to say about Hollinger's "methods" only concerns the technical handling — the outward and apparent means by which he seems to attain results differing from those generally obtained under the skylight. Like his pictures, his methods are characterized by an almost severe simplicity. The studio is a large room, perhaps 24 or 28 feet square, lofty, and lighted from the northeast. The side-light begins at about 4 feet from the floor, being placed at the middle of the side of the room, and rising to a height of perhaps 12 feet, inclining inward as it reaches the top-light. From each end of the side-light extends a space of fully 8 feet before the studio walls are reached. In these two spaces are two small, deeply recessed windows. These, with the side-light, can be instantly obscured, wholly or in part, by opaque blinds of dark-brown material. Beyond these there is no curtaining or diffusion of the light by any of the means usually adopted. In this we have the first point of difference notable in his methods. By doing away with semi-opaque screens, blinds and curtains, reflectors, and other traditional clap-trap, he secures abundance of direct light upon his subjects. Now, provided the photographer knows how to use light, pure, direct, undiffused, effects can be secured which are not otherwise possible; rich deep-darks, pure high-lights, values and subtle gradations of tint which the excessively diffused light so long adhered to in our studios can never or rarely give. If any photographer doubts this let him try the plan and see for himself, if he feels able to control the difficulties of direct lighting.

Of backgrounds I saw only two in the studio; one wall is covered with baize of a dark maroon color, equivalent to black photographically; the other is colored in a warm cream-tint, which prevails in all other parts of the studio. The floor is covered with a plain druggetting of maroon. The usual studio camera, a piece of drapery, and a sufficient variety of ordinary (not photographic) chairs completed the studio equipment. The principal feature seemed to be abundance of floor space, permitting the placing of the sitter wherever desirable.

In his treatment of the subject no special method is observable. He has the faculty of artistic sight, and therefore sees each subject in a different way, with different pictorial possibilities. Hence his treatment differs with every subject. I cannot tell anyone more about this than Mr. Hollinger himself when he says: Read Burnet's *Art Essays;* educate the eye by the constant study of every sort of good pictures accessible in art-galleries, illustrated periodicals, and the like. Try to see the motive of an artist in his work, to analyze, take apart, and reconstruct pictures. Then, when you have the living subject to deal with, your picture study and knowledge of art will enable you not only to see pictures in your subject but to get them in your photographs." Further than this, he adds the excellent advice to those who have sought information how to get the results he obtains; "do not attempt to imitate Hollinger, or to get pictures like such work of mine as you may see here and there; but study to put art and individuality in your own work and to produce pictures showing your own conception of

the beautiful. One honest effort in this direction will help you more than a year of slavish imitation."

To retain the peculiar qualities of lighting secured in the studio Mr. Hollinger modifies development as it is generally practised. He uses a developer apparently fairly strong in pyro but weak in alkali. For the latter he prefers sal soda, as it gives a greenish-yellow veil in the negative, which helps in printing. As small a quantity of solution is used as possible, and the negative, according to ordinary methods, is forced, the lights being allowed to block-up slightly until the required detail and density in the shadows are obtained. I may here say that such of Mr. Hollinger's negatives as I have seen would be thrown into the waste barrel in most studios. In a three-quarter-figure portrait negative, for instance, the face, hands, and white draperies are fairly intense, the highest lights only being opaque; the darker draperies, shadows, and surroundings of the figure being almost devoid of density. If printed on a glacé gelatine paper such a negative would produce results which would not pass in the poorest country gallery. The face is so lighted and developed that retouching is generally unnecessary, and when prints are taken on rough platinotype or carbon paper the peculiar qualities of the negative are at once apparent. In short, apart from the art Mr. Hollinger puts into his work, his treatment differs from the general practice only in the simplicity of lighting and technical handling employed and the selection of appropriate and artistic printing methods, with individual styles of finish.

DR. JOHANN PAUL EDUARD LIESEGANG.

DIED SEPTEMBER 6, 1896.

AT the early age of fifty-nine years another veteran has passed away and another valued and long-time friend is no more, as will be seen by the heading of this article.

Dr. Liesegang, at his demise, was the oldest editor of any photographic magazine. It may be that he had not lived the most years of any, but he had wielded the pen in behalf of photographic progress for nearly forty years. We had visited him at his home, and had been in close touch with him for over a quarter of a century. With the rest of our fraternity, we have drawn much help from his valuable works and inspiration from his example.

The notes following will show how full his short life was and what a rich legacy he has left to those who succeed him.

Dr. Liesegang was born June 26, 1838, at Elberfield. He entered the gymnasium at that place in 1843.

After a course in natural science with special direction to chemistry at the Universities of Berlin, Giessen, and Jena, he received the doctor's degree in 1859.

The first incitement to photography was given to him in his fourteenth year, on the occasion of the establishment of an atelier by Emden, in the large garden attached to his father's property, where he assisted as an amateur.

One of the results of his fondness for the art was the publication of a *Guide to Photography* when he was only sixteen years old. This gradually grew in later years into his well-known *Handbuch der Photographie.*

Soon after his return from the university he founded in Elberfield a manufactory for albumen paper and a photographic apparatus factory. These were removed to Dusseldorf in 1873.

The manufacture of albumen paper was

later succeeded by that of chlor-silver gelatine paper (aristo-paper), which he was the first to introduce into the market.

He was the first to introduce into Germany the collodio-chloride process, discovered by G. Wharton Simpson. A great variety of apparatus was manufactured in his works, of which we need only mention his rotating or cycloramic camera and the enlarging and projecting apparatus, so celebrated in the trade. About the same time his publication and book enterprises largely increased.

In 1860 he founded at Elberfield the well-known magazine *The Photographische Archiv*, followed shortly after by the French photographic periodical, *Le Moniteur de la Photographie*. His editorial duties in the French journal were shared with Ernest Lacan.

His *Amateur Photograph*, yet another magazine, was begun in 1887. His work having special bearing on lantern projection is the quarterly sheet *Laterna Magica*, established in 1877. An Italian journal, the *L'Archives Fotografici*, was for several years under his personal management.

Among the best books of which he was the author, we recall, were those treating of the carbon process and of the bromo-silver-emulsion process. As a writer he was intensely practical, clear, and precise. He was gentle, kindly, and lovable, and his demise is a sorrow and a loss. His mantle falls upon his talented son, Dr. R. E. Liesegang.

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

(Continued from page 395.)

In the last article the useful and permanent colors for foregrounds and rocks were given. For this lesson we will choose some mixed greens from yellows and blues. We will mix our most delicate transparent yellow, aureolin, with a blue of like qualities, cobalt. First a square or circle equal in area to that of a twenty-five-cent piece. Use the least color you can, and break it with light red until warmed sufficiently. Again aureolin and cobalt broken with light addition of sepia warmed with a dash of carmine. Again aureolin and cobalt, break it with raw umber. It will be interesting to note the quality of the greens thus made. Pass now to a stronger green of aureolin and French blue, broken with burnt sienna. And stronger yet, aureolin and indigo broken with Van Dyke brown and ivory black, just a dash. Produce these greens again in same manner, but using yellow ochre, an opaque earth, and note the changes. Again produce them with Indian yellow in place of yellow ochre. For deeper sombre greens substitute raw umber or raw sienna, when the variety will be greatly enriched.

Crude greens in a picture condemn it at once, yet many who paint are guilty in this respect.

For flowers Antwerp blue is preferred by many for greens. Use Antwerp blue and raw sienna, Antwerp blue and burnt sienna, Antwerp blue and warm sepia, Prussian blue and raw sienna, raw umber and indigo. In mixing these the first-named color is allowed to predominate. Indian yellow, indigo, and ivory black make a good green for shadowed places. Indian yellow, Van Dyke brown, and French blue, good distant greens.

In a previous article emerald green, a permanent semi-opaque color, was mentioned. It is very useful in landscape work,

and almost indispensable in decorative color designs. It is known by other names, as Olympia, Paris green, Persian green, Saxon green. It is used by the famous artist and teacher, Ross Turner, who is besides very much of a mysticist in his teaching and technique. He mixes a luminous gray with emerald green and ivory black, a brownish black, giving a very useful color. Emerald green with light red is another tint used by him. Emerald green and neutral tint also.

J. M. W. Turner used emerald green and burnt umber, emerald green and raw umber, emerald green and Prussian blue, emerald green and rose madder, this last a most tender gray, for skies.

An excellent pure gray for use with monochrome pictures is made with indigo, yellow ochre, and light red. It can be mixed in equal parts, and then again with more yellow ochre, and again with more light red. A beautiful pearly gray is made with aureolin, cobalt, and light red. It is useful in sky shades.

R. P. Leitch, a clever English artist, used a broken blue in his work called Leitch's blue—two parts cobalt and one part Prussian blue, and one part white with a dash of emerald green—for skies.

P. H. Delamotte, a fine English colorist, author of an excellent work on color, used a blue that he called cyan blue, made from Antwerp blue with fourteen parts emerald green and one-half as much white added, or seven parts of white. He mixed a sombre green for masses of foliage from cyan blue, yellow ochre, and indigo, which he broke with light red or burnt sienna. A less sombre green he made with cyan blue and raw sienna, and a cheerful green cyan blue and Indian yellow, equal parts.

From these instances of the painstaking care used by these artists to break their greens and blues, the color printer may learn that it is utterly useless to hope to secure any artistic effect with the raw green and blue inks furnished by the dealers. The greens must be kept broken and juicy or the result will set one's teeth on edge. The blues must be broken with warm colors or the sunlight will be banished from the picture. A favorite saying with our little company of workers was "Art should win the heart."

Only the beautiful in color will win the approval of persons of cultivated taste, but audacity in light and shade effects is not an unpardonable sin. To enhance this beauty the complementary colors are used. If lacking, the eye hungers for them, and remains unsatisfied. Suppose that we have a richly decorated interior, yellow hangings will be shaded with violet, green stuffs with red, ultramarine blue with orange, red hangings with green, and violet-colored fabrics with Indian yellow, carmine-colored stuffs with light emerald green, and emerald green fabrics with violet blue.

Another quality to consider is the transparency of the colors when used upon white paper, and conversely their opacity also. Of the reds, vermilion is opaque, hence it follows the yellow in order of printing, and the blues come after for purple tones. Rose madder is transparent. Of the yellows, aureolin and Indian yellow are transparent, yellow ochre is opaque, and raw sienna semi-opaque. Of the blues, Antwerp blue is transparent, hence is good for greens; cobalt semi-transparent, hence good for sky; French blue is semi-opaque; indigo and Prussian blue are transparent. Of the browns, burnt sienna is transparent; burnt umber and brown madder semi-transparent; sepia is transparent.

The grays have been before mentioned. Suffice to say that when used for improving any colored picture, they should always be mixed from the same yellow, blue, and red used in making up the picture. When used to enhance the beauty of a monochrome, as a sepia print, it should be a gray broken by emerald green; while if a

blue picture it should be a golden gray, and should surround the margin for at least one or one and a half inches outside of all.

As in light and shade a due balance of effect should be preserved, so an agreeable balance of effect in color should be sought, if we would please the cultivated eye. Broadly speaking, colors are warm and cold; some warm color must be introduced into the cool color of the picture, and some cool color be visible in the warm portion to complete the balance of effect. It is by no meaus necessary to always have a blue sky in a picture. "Gray-day effects" are much sought by artists, and after the monotony of the tri-color pictures, I have often wondered what would be the result of a gray-day treatment by that method. Let a gray sky and cloud be warmed by a tendency to orange pervading the earthy portions, and foliage of the foreground, while the mid-distance should lean to a purple tone.

The red and orange of a fine sunset may be complemented by the olive greens and purple in the terrestrial portions of the picture.

Taste and judgment cultivated by careful observation of nature are the best guides, while the study of good pictures is incumbent upon all. The worker must ask himself, how blue is the sky? Is it warmer as it approaches the earth, and how much warmer? How much shall I warm the greens of the foreground? What gray pervades the distance, and is there much or little of it? There is much more than one would suppose, and to this all-pervading gray the landscape owes its poetry of color. Corot was the artist-poet, *par excellence*. The painter of the tender twilight; the dewy morn; the mists of the valley and mountain; the rising vapors of rivers and lakes through his magical brush found interpretation.

Corot stood in the presence of nature, reverent, loving, enthusiastic, watching for the delicate lighting of the dawn, and ever on cloud and mist, trees and streams, seeing what it is given to few eyes to see, and giving us his own impressions of dreamy, magical beauty. Corot was only a painter; he could not *write* a poem, but he could, and did, paint poems. Of his "Dreamland," the author says: "It is a dreamland indeed, but yet a dreamland caught from such a scene as everyone has had a thousand times before his eyes. A dreamland all the more perfect and exquisite because it is beyond description, real. The color in it is so delicate that one fears for it, as a child smelling the fragrance of flowers fears that he may exhaust their perfume. It is impossible to tell what is in it. Everything is in it, and nothing that one may describe. It is simply the whisper of one of the intimate secrets of nature. Before this picture we realize a truth to cherish, that poetry in art is the artist's vision, or that God-given combination of intuition, perception, feeling, experience, memory, summed up in the word imagination. But if one lacks the power to observe rightly, of what use is the power to record? Bear in mind that the picturesque quality is the beauty of homely objects, and that true originality is shown by the choice of a subject under conditions of view which render it remarkable. It is indeed a vulgar taste that decides that the more detail seen the greater the art quality of the picture. It requires a trained vision to bring out the hidden meanings of nature. True art invests the commonplace with the qualities of refinement, beauty, and perfection, thus helping us to see by its inspired aid ideal prototypes.

"Such painters as Corot are now appreciated; and although his pictures are inaccessible to the mass of mankind, yet the teaching belongs to us; it is ours to enjoy, ours to preserve, and nature smiles for all.

"But who can paint like nature? Can

imagination boast, amid its gay creations, hues like hers? Or can it mix them with her matchless skill and lose them in each other?"

(To be continued.)

TONING BROMIDE PRINTS.

BY DR. A. MIETHE.

THE bromide prints are developed in the usual manner with the formula of hydroquinone and metol, fixed, well washed, then submitted to a bath of weak bichloride of mercury until bleached, or in the following method:

Stock Solution.

Bromide of Potassium . .	20 parts.
Sulphate of Copper . . .	20 "
Water	100 "

For use, take 1 part of this and dilute with 10 parts of water. With some varieties of paper the bichloride of mercury is very difficult to wash out, which is not the case with the copper bleacher.

After the prints have been bleached by either method they are well washed and submitted to a second development with weak rodinal solution (1–100). It will readily be seen that in the first development the operation should not be carried to the full degree, otherwise the second development will render the prints too intense.

The bichloride of mercury solution is allowed to operate only until the deepest shadows of the print begin to bleach. If this precaution is not taken, on the subsequent development the shadows will be too much clogged.

The second development or blackening of the image is best effected by daylight, as the tone can be better judged than in the yellow or red light of the dark-room.

If the dilution of the rodinal bath is properly adjusted a variety of tones can be secured, beginning with reddish-brown and passing by rapid gradations to brown and bluish-black.

As soon as the desired tone is reached the print must immediately be taken out and washed in water, placed in the hypo bath for a few minutes, and finally well washed.

If the image in the second development comes out too strong it may be reduced with the well-known Farmer's reducer (ferricyanide of potassium and hypo), but it is necessary here to use great care, as the half-tones are liable to suffer, being attacked more vigorously by the reducer than by the deep shadows. A few seconds will generally suffice. A weak solution of perchloride of iron and citric acid frequently acts more uniformly than the ferricyanide and hypo. The formula is: Perchloride of iron, 60 grains; citric acid, 120 grains; water, 32 ounces.

In both cases watch closely the action, and remove the print as soon as the proper degree of reduction is obtained.

The advantage of this process of toning over many others consists in the ease with which uniformity of tone is secured in dealing with many prints.—*Photo. Archiv.*

Reducing Over-printed Proofs. A very much over-exposed print on gelatino-chloride paper, if fixed and washed without toning, may be bleached and redeveloped with a solution of hydroquinone containing a large proportion of bromide. The action of the developer can be stopped at any desired stage, and the image is then, after the usual washing, capable of being toned in the usual toning bath along with other prints produced in the ordinary way.

ECHOES FROM FRANCE.

BY CHARLES GRAVIER.

SINCE our last "Echoes," many things of photographic interest have transpired. The discovery of the x-rays by Professor Röntgen has served as a text whereby industrious chroniclers have endeavored to prove that, previously, outside of the famous X, scientists going from A to Z had made analogous experiments, but that, not being sufficiently careful, perhaps, they had failed to perceive what the German professor had seen. "Beware of zeal," was the utterance of a celebrated diplomat. Do these archæological defenders imagine that all our modern discoveries, whether patented or otherwise, are new? This has been wisely foreseen in France, where the patentee is protected only when he has proven his rights to intellectual property.

It is true, however, notwithstanding the ironical pleasantries at the beginning, that the discovery of the x-rays has effected a veritable revolution in science, and has generally disturbed the old theories relating to the phenomena of luminous radiations. The useful applications are immediate and self-evident, and, beyond what has already been accomplished in radiography, the future holds in reserve important discoveries, and doubtless useful applications concerning the fluorescence substances analogous to the cataleptic forces of Berzélius.

Certain scientists enamored with these investigations have tried the emitting power of many bodies or composite substances. They have discovered, or at least think they have discovered, that certain metals, considered as stable at ordinary temperatures, can like the volatile metals, mercury, for example, emit "vapors" susceptible of impressing light sensitive media.

The photographic processes of color-reproduction continue to excite interest everywhere. It is said that the Photodynamic Society can produce permanent colored images; likewise that the color-prints obtained by the method of M. Ernic are unchangeable. It would appear that, not imitating the mythological goddess, the sun does not destroy what it has created when dominated by the inventors of the prints in question. Surely it is too late to begin to interfere with our classical pigmentary colors which so long ago as the days of Vitruvius excited much apprehension as to their permanence! Other processes of photographing colors are constantly being presented to the Academy, or exploited in the journals, accompanied by more or less mysterious explanations which borrow their phraseology from divers scientific or industrial methods and processes. Of these discoveries we get only muddled descriptions that, as outsiders, we can simply bow before the "secrets" of the inventors who seek their reward. Years of experience have, however, made us naturally skeptical, and in presence of these marvels we are reminded of the inscription prominently posted by the English in their museums, "Beware of . . ."

In France the tendency of investigation in color-reproduction is toward those methods which seek to attain the desired end by getting three successive impressions of the primary colors, by utilizing the processes outlined by the researches of Ducos du Hauron in 1869 and later, as well as by Charles Cros, methods originally suggested by Collen in 1865.

Without doubt a colored image is more agreeable in variety and less cold than an image in monochrome; but we, being perhaps more practical than our contemporaries, would prefer first to see perfect monochrome images more general before

the efforts of the workers are so extensively given to the production of color-prints. We would much prefer that the beautiful prints obtainable by the so-called American (enamel) processes of reproduction were not so rare, but obtainable everywhere; that by a serious study of these processes it might be possible to give us always the best results, without attributing to the rapacity of editors or publishers who, it is said, are unwilling to pay for good work, the poorness of the many reproductions yet seen in our public prints. When this shall have been accomplished, it will then be time enough to push forward color-work for book and magazine illustration. To go forward before the difficulties at hand have been mastered—to put the cart before the horse—cannot make us go any faster or make real progress.

A valuable feature of our exhibitions is their unconscious indication of the tendency of opinion in the public or among the crafts. The recent exhibition promoted by the Photo-Club of Paris shows, in this connection, the practical and artistic tendencies of amateur photography. We see this practical tendency in the use of the processes employed to produce our prints. Out of the 630 prints shown at the exhibition here is a table displaying proportionately the various printing methods used by the exhibitors: Gelatino-bromide, 22; gelatino-chloride, 6; platinum, 16; carbon, 17; bichromatized gum, 5; salted paper, 3; Artigue's carbon paper, 1; albumenized paper, 1; without data, 29. From this we perceive that the tendency is toward permanency in the finished print, 90 per cent. of the pictures being produced by processes more complicated and requiring more care than the procedure essential to the production of more or less fugitive albumen or aristotype prints. It is evident that these last-mentioned methods are used chiefly for the smaller sized prints, permanent methods being generally employed for works of importance. The continued use of albumenized paper is explained by the favor with which it is regarded by professional photographers, who seek rather uniformity and pleasing tones in the work produced to meet the public taste. The great number of gelatino-bromide prints is accounted for by the popular craze for small cameras, which make pictures too small for exhibition, and hence requiring enlargement, to which purpose bromide paper is so finely adapted.

If now we consider the artistic side of the prints, that is to say, what has given them the right of admission, we must admit without prejudice that the tendency is toward the idealizing of the subject for pictorial effect. We do not find in the exhibition a print which does not show careful research; sometimes it is exaggerated, and, after having been so in the print, we find it also in the frame and even in the inscription. But this is a question of taste and tact, and occurs only in exceptional instances.

Not making a special review of this exhibition, we will mention no names; but we may sum up our impressions by saying that such exhibitions are decidedly useful. Nevertheless, we must mention the tendency to abandon the dry and topographic photography given to us by the objectives that cost us so much; the softness of the pin-hole pictures is sometimes exceeded, but we must admit that it is the exception.

We have in hand the regulations of the future exposition at Berlin; we will revert to it in our next article. But we must call attention to the fact that professionals are almost excluded from this exposition. It is added, however, that the committee *reserves to itself the right to invite some of the principal photographers to take part in the exposition.* We find that this partial exclusion is singular, and this method of making the intercourse between amateurs and professionals less pleasant is but little

worthy of the instigators of this regulation.

We might look over dividing the rewards, so as not to mix the professionals (who might sometimes suffer from it) with the amateurs, these last not having the facilities for studio photographs. But to only tolerate the principal photographers as exhibitors is to often exclude real talent, and to admit, sometimes, an individuality which has only brought to photography a Bohemian existence, and without other professional capacity than that of having been able to amass capital in order to live at its expense.

The example of the committee of the Berlin Exposition is, therefore, not worthy of imitation.

[Translated for WILSON'S PHOTOGRAPHIC MAGAZINE.]

GELATINE PLATES FOR VARIOUS PURPOSES.

AT a recent meeting, at Frankfort, of the Association for the Advancement of Photography an interesting discussion occurred upon the preparation and manipulation of gelatine plates. From the report we cull a few suggestive notes.

The difficulty hitherto encountered in the coarsening of the grain of highly sensitive emulsions has at last been overcome. As is known, the coarseness or fineness of the grain of an emulsion depends upon the method of manipulation employed. It is now possible, however, to obtain emulsions combining not only extreme sensitiveness, with sufficient proportion of silver salts to give density, but also a fine grain structure of the film.

To this end the emulsion must be corrected as to the red modification of silver resulting from the union of the bromo-iodide of silver, and the ripening of the emulsion so manipulated that the coalescence of the fine particles is secured. On mixing the bromide and silver the production of the red modification takes place at once. If a drop of such an emulsion is placed on a glass plate and looked through it appears red; by continuing the ripening of the emulsion it passes over to the blue or red-blue tint, the sensitiveness of the emulsion increasing, but with it the coarseness of the grain. This may be avoided if the emulsion, with its proper additions, is allowed to ripen cold.

The use of orthochromatic plates is greatly increasing in Europe. Cadett has introduced a plate which is claimed to be sensitive to all colors equally. B. J. Edwards, who has recently constructed a camera for the simultaneous exposure of the three negatives needed in three-color reproduction, prefers to use plates specially sensitized for each color. To make a plate which shall be sensitive equally to all colors means the production of a plate which will give a continuous spectrum. For this the use of cyanin or nigrosin as a sensitizer is advised, the excessive action of the blue rays being depressed by the use of a yellow screen. A light yellow screen demands an exposure three or four times that required by an ordinary plate; a darker yellow requires an exposure six times longer than normal. Frequently, in copying portraits the screen may be dispensed with.

The treatment of orthochromatic plates demands special precautions, and to this fact, doubtless, is due their slow growth in popularity. A yellow-green light is specially to be avoided, as most color sensitive plates are fogged by exposure to such a light. Schumann recommends a threefold layer of brown silk paper. Two thicknesses of ruby glass, with a single thickness of orange glass between, will probably be found a safe light. The manipulation of these plates should be done as far as possible in darkness, the plates being covered

during development and not examined more than necessary to watch the progress of development.

The durability of erythrosin plates depends largely upon the quality of the mother emulsion, but about equals the keeping qualities of ordinary orthochromatic plates, six months probably being the limit.

It is now found possible to produce orthochromatic dry-plates for process-work fully equal to the wet collodion plates. These are somewhat slower than wet collodion, but the manipulation is on the whole more expeditious and the saving of time in the long run is considerable. These plates are prepared with emulsions which have taken on the red variety of silver salt. They are best developed with a strong hydroquinone developer, bromide of potassium being used to restrain and get clearness of the shadows.—*Photo. Correspondenz.*

NEGATIVE MANIPULATION FOR AMATEURS.

BY THOMAS AQUINAS.

Now that the season for outdoor work has closed, or is closing, for the majority of amateurs with whom photography is a summer-time hobby, the development and printing of the negative demands attention. It is hardly sufficiently realized how much of success depends upon these two branches of manipulation. A few hints upon the treatment of negatives after exposure and before printing may therefore be found of use. In developing a number of negatives where the exposures given are unknown, the safest method of procedure is to first prepare a normal developer; next set near at hand on the developing-table a good-sized tray containing a solution of bromide of potassium, a 5 per cent. solution will be of the greatest utility; finally, in another tray have a sufficient quantity of fresh alkali solution, made up according to the formula of the developer to be used. As the development proceeds, if the negative under treatment shows signs of extreme overexposure, remove it from the developing tray, rinse it under the tap, and immerse it for a few minutes in the bromide of potassium solution. After this modification it will be ready for slow development in a weak solution of pyro or hydroquinone with a very small amount of alkali added. If, on the other hand, the negative is found to be considerably underexposed, place it without rinsing in the alkali bath for a couple of minutes, after which it may again be transferred to the ordinary developer and brought up to the desired density. If a negative develops up all over to too great an intensity, it may be reduced by placing it, after fixing and washing, in a 20 per cent. solution of perchloride of iron; where only the highly lighted portions are too dense, rubbing them with a piece of chamois dipped in alcohol will reduce them into more harmonious relation to the shadows. Negatives which in part have not sufficient printing density may be safely intensified by the uranium method. When the whole negative is too thin to give a good print it should be treated with Scolik's intensifier, which deserves record for its simplicity: One part of potassium bromide and one part of mercuric chloride are dissolved in fifty parts of water, say one ounce of each to 2½ pints of water. The negative to be strengthened is well washed after fixing, and immersed in this solution until the image is uniformly bleached. It is then rinsed and placed in a mixture of equal volumes of a saturated solution of sulphite of soda and water. When sufficiently

strengthened the negative should again be well washed. Or it may be varnished on the glass side with matt varnish containing a small quantity of yellow dye. This latter method is often preferable to chemical intensification, since it allows of complete control of all parts of the negative. Thus the sky may be coated with a colored matt varnish and the rest of the negative with a plain matt varnish, while portions of the latter can be removed by scraping or the use of a stub of soft wood dipped in benzine. Or the whole negative may be coated with uncolored matt varnish and dyed locally to fill printing requirements with dyes of different actinic values. Before printing from a miscellaneous batch of negatives it is always well to assort them carefully according to the printing process or paper which will best render the effect sought in photographing the subject. When this is done it may be found that further manipulation of the negatives will be necessary to enable them to meet the special requirements of the process to be used in making prints. It is on these details that the making of a picture often depends, and much of the pleasure in amateur photography comes from the patient effort to get the best and most pleasing results possible from our negatives. The negative in itself should be regarded only as the beginning, as the base of many pictorial possibilities, and the resourcefulness of the amateur is shown in his or her ability to bring forth a picture from a negative which promised nothing more than a mere photograph.

PRACTICAL FORMULÆ.

Making Panoramic Pictures. In a leader on the making of panoramic photographs in sections, that is, panoramas formed by joining several prints from three or more negatives, the *British Journal* gives the following hints which will doubtless be of use to some of our readers. The camera must be planted perfectly level; it should rotate freely on its base; the centre of rotation should be as nearly as possible under the optical centre of the lens; the camera must not be moved between the exposures except for the purpose of rotation; the exposures should be made quickly, one after the other, and each plate should receive the same exposure. In arranging the camera for the different sections of the picture, a good margin should be allowed on each negative—that is, each should contain at either end a good amount of the subject of the adjoining negative. By this means the dark ends so often seen in panoramic pictures may be avoided, and the joinings of the pictures more easily hidden than if the whole of each negative were used. In developing the negatives they should all be made of the same density and of the same character, or prints of the same tones will not easily be obtained. The prints should be made on a paper giving reliable results with uniformity, such as albumen paper; they should be all printed to the same depth and toned in the same bath. It is important that the prints shall be cut in the same direction from the sheet, otherwise, when they are wetted, they will expand in different directions. The best way to cut the prints so that each section will join evenly is to superimpose the duplicated portions and then cut through both prints at once with a sharp knife. Sometimes it is better to make the joining run otherwise than straight through the subject.

Sensitizer for Carbon Tissue.

Bichromate of Potassium	3 ounces.
Carbonate of Ammonium	15 grains.
Water	100 fl. ounces

Float the tissue for two minutes.

A VARIETY OF STUDIES.

1, 2, 3 and 4. By W. M. Morrison, Chicago.
5, 6, 7 and 8. By B. J. Falk, New York. Copyrighted 1895.
9. By R. H. Furman, San Diego.
10 and 11. By S. L. Stein, Milwaukee.
12 and 16. By McCrary & Branson, Knoxville.
13, 14 and 15. By J. F. Ryder, Cleveland.

SOME SUMMER WORK.

F. M. Somers, Memphis, Tenn.

DISCORD IN THE CHOIR.

IT is the happy practice of some of our readers during the long dog-days of the year, when atmospheric conditions are against all unnecessary work indoors, to turn their cameras toward the nearby subjects which accumulate awaiting an idle hour or congenial mood. The editor's drawer receives a welcome portion of these odd-time pictures, and we herewith offer engravings of a few of them to embellish the end of the season.

Most naturally, the enervating influences of "dog-days" awaken a desire for subjects possessing more than average vitality —dogs, for instance. Hence the round-up of dogs and other animal friends in our drawer makes a presentable collection. From the top of the pile we take Mr. F. M. Somers's "Discord in the Choir," with which we head these notes. Like the "Spring Chickens on Hand," by Mr. Spencer Judd, given on page 351 of our August issue, this picture shows the photographer's lively sympathy with his interesting subjects. In this class of work the motto, "Everthing comes to him who waits," applies with special force; and for obvious reasons the camerist with plenty of time and patience, unencumbered by officious assistants, succeeds better than one working under conditions best described as "otherwise." A point worth remembering in dealing with all animal subjects is that to permit of any movement going on in the rear of the subject is to risk almost certain failure. Beyond this the photographing of animals brings into play almost all the faculties generally supposed to be peculiar to studio practice, and a great many others. As in portraiture, the pose is the thing; character, expression, naturalness, and the like following in their order. A useful lesson can be gained by observing how Mr. Somers has secured all these in his group with pleasing variety.

Pups, like all babies, are easy subjects for the camera, provided one is in the right humor. Curiously solemn or mischievously gay, they require deft handling, and one man will get his pictures quickly and with ease, where another will fume and waste plates for an hour or two. Their ofttimes ungainly proportions are, as a rule, better concealed than displayed, suggested as we have them in Mr. Morse's "All Ready for the Show." Sometimes a handy flash-light lamp will be found

helpful for restive dogs or kittens, some of the best work we have seen in this line

W. M. Morse, Bellows Falls, Vt.
ALL READY FOR THE SHOW.

having been accomplished with this useful aid. What we personally like about Mr. Morse's lucky exposure is the perfect blend of infantile innocence and pure cussedness shown in the attitude and individual expression of each member of the group. They *look* "all ready for the show," apparently ruminating, as many young photographers do, upon their chances of

W. M. Morse, Bellows Falls, Vt.
GETTING ACQUAINTED.

securing a medal, the other corner of each eye sparkling with anticipations of a "good time with the boys," regardless of medal-getting.

Moving along the line of least resistance in our drawer, we pull out a couple of horses' heads, another odd-time picture from Mr. Morse. "Getting Acquainted"

F. E. Stearns, Bayard, Neb.
CHIMNEY ROCK.

shows us the social side of the horse in a very characteristic way. Those who know horses will recognize in the touching of noses, caught by the facile camera, the horsey way of "sizing up the other fellow" at close range. There is some character, too, in the two heads, intelligence and flightiness respectively dominating the left and right ends of the picture. It is in the securing of these distinctive traits of animal life that pleasure comes to the worker hand-in-hand with success.

as a landmark by the Mormons and early California settlers on their way across the plains. The trail of their prairie schooners may yet be seen here and there deeply worn into the plain, and the rock shows hundreds of names and dates, cut into its spire of white chalk by the pioneers who opened out the great West. This enormous monument stands 4242 feet above sea-level, and almost 500 feet above the River Platte. Time and the elements are slowly but surely causing its decay, over fifty feet of the chim-

L. R. McLeod, Penn Yan, N. Y.

THE OLD MILL POND.

The picture now holding foremost place in the editorial drawer takes us a long way from the barnyard and its lively subjects. It is a photograph of "Chimney Rock," standing in lonesome grandeur out in the valley of the North Platte, Nebraska, and was sent us by Mr. F. E. Stearns, of Bayard, Nebraska. The huge rock has an interesting history. It may be seen for a hundred miles up and down the River Platte, which we observe in the far distance, and was used

ney having fallen during the past ten years, from which fact the picture gains historical value.

The afternoon shadows fall across our drawer as we go again into its depths, giving additional sentiment to the quiet view of "The Old Mill Pond," which meets our eyes, sent us some months ago by Mr. L. R. McLeod, of Penn Yan, N. Y. Here we are brought back to familiar haunts and associations. At one time doubtless the old

mill, glaring in the pride of newness, before the sentinel-like trees which surround it had grown to maturity, would have defied the picture-maker and his camera. But now age and long association with nature have imbued the veteran with feeling, and pictorial effect is possible. The soft reflections and effective shadows still further convey the spirit of the scene to the observer, and the well-broken yet harmoniously disposed masses of light and dark render the picture artistically pleasing. Mr. McLeod has done well, and his work offers a useful lesson in the appropriate treatment of the subject. The odd-time pictures in the editor's drawer have served their end.

ERWIN'S HALF-TONE ENGRAVING PROCESS.

SINCE the appearance in the July number of this MAGAZINE of an illustrated notice of the simple half-tone engraving process, devised by Mr. J. Bruce Erwin, of Newcomerstown, Ohio, we have received inquiries from several correspondents touching the practicability of the method and similar features. Replying here to these and other correspondents, we can only repeat that, in our opinion, the process is entirely practical, peculiarly adapted for the photographer who desires to add an engraving department to his business, or for those not acquainted with wet collodion work, or not desiring to invest in the expensive plant required to work the regular methods. We might also add that Mr. Ervin is perfectly responsible as a business man, and that there need be no hesitation in communicating and dealing with him direct.

ENGRAVED BY ERWIN'S HALF-TONE METHOD.

In our former notice we promised to secure better examples of the process than could then be given. These we present herewith. We believe that they will amply prove that the process, as claimed by Mr. Erwin, is quite capable of producing blocks of such quality as will meet seven-tenths of the demand for half-tone blocks.

ENGRAVED BY ERWIN'S HALF-TONE METHOD.

It will be remembered that Mr. Erwin claims that his process is chiefly intended for the work which can usually be secured by the photographer, such as the illustration of local souvenirs, catalogues, mercantile and advertising illustrations, and

that a knowledge of the process will enable the photographer in the smaller towns to add to his income by the addition of an engraving department.

Beyond a line-screen and holder no special outfit is required to work the method. Carbutt's dry-process plates are used, and for the rest the ordinary apparatus and material of the photographer will suffice. The method is simple, and the price Mr. Erwin asks for instruction is a small sum to venture in return for the possibilities underlying his offer. The quality of the work we have thus far seen is excellent, and we cordially commend the process to those who seek an easy and efficient method of photo-mechanical reproduction.

GETTING LIFE IN CHILDREN'S PICTURES.

THE photographer does not always live up to his opportunities. The advances constantly making in the direction of better apparatus and materials call for intelligent watchfulness and practical appreciation, when deserved, of the help offered. Take the photographing of children as an instance. There is no longer any excuse for the old-fashioned style of child portraiture, constrained and stiff in pose, stolid or religiously solemn as far as expression is concerned. The difficulties formerly existing in dealing with these little subjects have been smoothed away by the introduction of very rapid plates and lenses, with other valuable aids, such as flash-light apparatus, silent exposure shutters, and the like. There is no reason, therefore, why pictures of children should not give us child-life as it is, full of vitality, grace, and brightness.

We need hardly say that these remarks concern general practice. As is well known, a few men, such as Rockwood, Stein, Strauss, Brush, Falk, Guerin and Faulkner, and Boissonnas, are famous for their skill in photographing children. But we would like to see similar good work much more common than it is. What is needed is the special effort to put life into the children's pictures, to secure the natural vivacity and graceful abandon which belong to the little ones. It is a reproach to professional photography that these things are so seldom seen in every-day work.

How shall a photographer go about this suggested reformation in his practice? First, let him read up on the subject and learn of those who are already adepts wherein he is only a beginner. The article by Thomas Aquinas, at page 546 of the

Pittser, New Vienna.
CAUGHT NAPPING.

1893 volume of this MAGAZINE, offers an excellent introduction to the subject, and its illustrations are good examples. An illustrated paper on the subject by Rockwood appeared in our Februrary, 1892, number. At page 264 of the 1894 volume of the MAGAZINE may be found an account of the method employed by the English artist, Faulkner, whose photographs of chil-

dren are famous the world over. An article with some useful hints appeared in our last number. The first step in the work is to provide the proper equipment of tools. The silent studio shutter, made by Thornton-Pickard Co. (A. J. Lloyd & Co., agents, Boston), will be found an invaluable helper. A rapid plate and a quick-working lens are, of course, indispensable. A studio camera-stand which will permit of placing the camera quite near the floor, such as the Semi-Centennial Stand (Horgan, Robey & Co., Boston), will be found useful.

Spencer Judd, San Diego.

The key to successful pictures of children lies in making them feel so thoroughly at home in the studio that they will themselves suggest pictures. A set of children's furniture, some toys, a soft rug or two, and anything else likely to amuse or occupy a child should also be provided. As soon as the little ones come into the studio and the photographer has established a cordial feeling of confidence and good-will between his subjects and himself, they should be, so to speak, turned loose and allowed to amuse themselves after their own fashion. Sometimes they will readily follow the suggestion of the photographer, and may at once be led into a desirable pose or arrangement. There should, however, be no suggestion of restraint or compulsion. Working thus the photographer will observe abundant chances of securing excellent pictures of children, possessing simplicity and naturalness, differing widely, it may be, from the conventional photograph, and more probable to bring profitable orders.

The making of children's pictures in series-form is a profitable side-line which will be found worthy of attention during the season now opening. An example is seen in the "Two Promising Youngsters," by Mr. George Smith, Cincinnati, which accompanies this article. It secured a prize at the Celoron Convention. The making of these combination pictures is now a very simple matter, thanks to the Combination Printing Frame recently introduced by Mr. H. A. Hyatt, of St. Louis.

"Caught Napping" is an example of the series style made up of separate pictures showing the same subject in different ways. In *Mosaics*, 1896, Mr. H. W. Minns had two pictures of this kind worth looking at again. The article by Aquinas, already referred to, shows others. We must not forget to mention as especially adapted to this work, the Klay Multiplying Plate-

holder (P. Diller, Bluffton, O.). The clever pictures at pages 253 and 254 of the 1894 volume of the MAGAZINE show what may be accomplished with children, provided one possesses one of these holders.

Good-humor, a big fund of patience, and facilities to make the children happy, and to secure pictures while they are happily occupied, make success certain. And it should be remembered always that the surest way to the hearts and pockets of the big folks is through the little ones.

George Smith, Cincinnati.

TWO PROMISING YOUNGSTERS.

PORTRAIT STUDIES BY HOLLINGER.

A VERY healthy sign of coming improvement in portrait work is supplied by the widespread interest shown in the peculiarly artistic portraiture done by Mr. W. M. Hollinger, of our city. Recognizing the advance made by Mr. Hollinger, we are pleased now to announce a new departure, which we hope will still further aid those striving after better work and higher prices. The fraternity already realizes the great advantages derived from the study of the actual work of its leaders. The demand upon Mr. Hollinger for specimen portraits from his studio, and even for actual negatives, has become so large that he can no longer give these calls his personal attention. Hence, he has put at our disposal a limited number of portrait negatives, each of which represents his style of life-portraiture. These we can supply, securely packed and mailed without extra charge, at the nominal sum of $1.25 per negative. Orders for these should be sent as early as possible to avoid disappointment.

We can also supply sets of eight platinotype prints from Mr. Hollinger's negatives, mounted on Rembrandt mounts, at $1.50 per set, postpage paid.

Anthion, the hypo eliminator recommended in our pages a few months ago by Dr. Vogel, is said to be simply potassium persulphate. The plates or prints to be treated are immersed in a solution of 5 parts of the persulphate in 1000 parts of water. By this operation the last trace of hypo is said to be completely removed.

A BUSINESS PERSUADER FOR 1897.

Copyright, 1896, by Automatic Photograph Co.

From Copyright Negatives by Falk, N. Y.

ALREADY the Christmas season is in sight, and the progressive photographer is looking anxiously for novelties and "persuaders" to make it as profitable a time as possible. The indications are that this year's holiday trade will show a big increase over last year's. Those who are best prepared for it will, of course, get the biggest share of the business.

In our opinion the season at hand offers a good opportunity to advance prices on better-class work. This can best be accomplished, in many instances, by offering an extra inducement to patrons. An excellent inducement of the kind referred to would be the presentation, with every order for a dozen pictures, of an artistic calendar for the coming year. Every home needs calendars; they are indispensable. Not often, however, are they as artistic as might be. There is an opportunity here for the photographer to delight his patrons and supply a need, which is worth prompt attention.

We have secured the agency for the beautiful photographic calendar shown in reduced form in the accompanying engraving. Our readers will agree with us that it meets every requirement as a business persuader for the photographer, combining artistic photography and practical utility. The calendar measures ten by eleven inches, is printed in four colors harmoniously disposed to add effectiveness to the pictures,

and is made of heavy bevelled board, so that it will retain its form and be protected from accident. The portraits, twelve in number, are photographs from life by Mr. B. J. Falk, of our city, printed by the process of the Automatic Photograph Co.

As a collection of photographic studies alone the calendar is well worth its price to the photographer. As a gift to patrons it cannot fail to charm, to create good-will, and to bring new business. Particulars as to price, etc., will be found in our advertising pages. Orders should be sent early to prevent disappointment.

MR. L. V. KUPPER AND HIS WORK.

WHEN describing the single slant-light studio of Mr. L. V. Kupper, on pages 408–12 of our September issue, among the portraits illustrating the effects possible to secure in such a studio, it was our intention to include one of Mr. Kupper; but the half-tone engraving arrived too late to make such use of it. We have pleasure in presenting it now. As will be seen, Mr. Kupper is one of the young, progressive, and worthy artists upon whom the veterans of our art rest, with no little satisfaction, for the preservation of the good name and fame of photography. In sending us his

L. V. KUPPER.

picture, Mr. Kupper writes: "It was taken by myself alone. I obtained the focus by hanging my hat and coat on the head-rest behind the chair; to help me get the position, in front of the camera just below the lens I hinged a mirror. The job was difficult—the result you have." We may compliment Mr. Kupper upon the skilful lighting of his picture and its general merits.

We have frequently presented examples of Mr. Kupper's landscape work—always charming—and now add one of his warm-weather studies, entitled "Cooling Off."

L. V. Kupper.

"COOLING OFF."

NOVEL METHODS OF DISPLAY.

Composition by Reutlinger, Paris.

DESIGN FOR A PHOTOGRAPHIC FRIEZE.

THE illustrated article in our September number, describing the exhibits at Celoron, seems to have awakened a new interest in the fraternity concerning the most attractive ways of presenting their show pictures. It is a matter of importance from the business point of view, for the proper setting of a picture much enhances its effectiveness, especially when displayed to draw business during the ensuing season. We propose therefore to keep the matter before our readers, presenting from time to time such suggestions and illustrations as will help them to better realize the advantages of wide-awakeness in this detail of business.

Necessarily, in considering facilities for the display of pictures about the photographer's gallery, the decoration of the reception-room should receive careful attention. Here it is, often, that the patron receives his first impressions of the photographer's capabilities. In the progressive establishment it should be made a public room, always changing in interest and attractiveness, and accessible to visitors at all times. If possible its scheme of decoration should be wholly photographic—and artistic in feeling. An excellent plan would be to embellish the walls with a photographic frieze, such as is suggested in the design at the heading of

this paper. It will be seen that the open spaces in the design are admirably fitted for the display of bust portraits. The decorative part of the work could be done in bas-relief, in plaster or stucco, or could be painted in apparent relief in flat tints at a slight cost. Below this might be left a liberal space simply covered with dark baize or a good flock paper, for the appropriate setting of choice examples of photography to be frequently changed. Beneath this a decorative dado of hard-wood, panelled for the insertion of standing figures, might be constructed to add effectiveness to the room.

THE PHOTO VASE

As centre-pieces for walls or over mantels, the frame shown in Fig. 3 offers an artistic suggestion. The vacant space in the frame is well adapted to a boldly lighted bust picture, or two well-poised heads of children, such as we often see in the photographer's display. It is equally well fitted for the exhibition of a three-quarter or full-length figure with suitable accessories. It is hardly necessary to say that these spaces should be so constructed that the pictures in them can be easily and frequently renewed or changed. With these designs before him the photographer with a deft hand should find no difficulty in making such furnishings without outside help or great expense. The article on "The Use of Plastico for Displaying Photographs," by Mr. H. C. Voorhees, on page 281 of *Mosaics*, 1896, will be found of value to those attempting this work.

Composition by Reutlinger, Paris.
DESIGN FOR CENTRE-PIECE.

Another artistic aid for display purposes is found in the novel photo vases just introduced by Messrs. Murphy & Co., whose advertisement appears on another page of this issue. We make no excuse for mentioning this novelty here, because we are of the opinion that it supplies a need long existing as a new thing in decoration for the reception-room, show-window, and home. The illustration here given conveys a fairly adequate idea of the attractiveness of these vases, but the engravings accompanying the advertisement are larger and more satisfying. The insertion of pictures in the oval space provided on the front of each vase is a matter so simple that a child can do it. Once inserted the picture is permanently preserved from the air, dust, moisture, and other destructive influences. These vases may be had in two designs, and a selection of colors. The price is exceedingly moderate, and the inducements offered for their introduction should insure their popularity during the new season of holiday trade just beginning. Apart from their value for display purposes and as accessories about the studio, it will readily be seen that they may be used to secure an advanced price for photographs by presenting them to patrons with photographs ordered, or they may be sold separately at a profitable figure.

The design for a pedestal shown is another of the artistic compositions of Reutlinger, of Paris, whose studio is one of the most famous in that city of art and novelties. Although somewhat more ambitious as a decorative scheme than those already given, its value and beauty as a furnishing will compensate for the expense involved in its construction. As the illustration shows, it is intended to display four full-length figures, serving also as a support for a vase or decorative group.

Composition by Reutlinger, Paris.
A PEDESTAL.

Our older readers will recall the fact that pedestals, urns, and vases were very much in evidence in the studios and portraiture of thirty years ago. It is far from our intention, however, to suggest by this article a renaissance in the use of such things for such a purpose. As decorative furnishings in the rooms and skylight of the photographer's establishment they may be used as appropriately and as effectively as in the home. Their use as a means for displaying photographs is more or less novel, and it is to this use that we desire to draw attention. Rarely can such furnishings be introduced in portraiture, except where the representation of an interior scene or a special pose is attempted. The very qualities of a pedestal necessitate the employment of somewhat formal lines, which are emphasized by its essential proportions. Both these things prohibit its use as an accessory except where it can be subordinated and made unobtrusive. From the illustrations given the decorative and display opportunities of taborettes, the panels of cabinets, doors, or the upper portions of windows where the illumination is abundant, will suggest themselves. As a matter of course, all such opportunities should be used with discrimination.

It was our intention to supply as further illustrations for this article a few choice examples of conventional designs for frames. The engravings, however, are not at hand at the time of going to press, and we can only refer our readers to the illustrated catalogue of the International Co. of Chicago, whose announcement may be found elsewhere. The selection of frames and mouldings offered by this company are unusually well chosen for photographic purposes.

The wash-drawings from which our engravings were made are the work of Mr. Will G. Walker, of this city, and are faithful reproductions of the original compositions by Reutlinger. To each of these gentlemen we offer our sincere thanks for their assistance in the preparation of this article.

PHOTO-MICROGRAPHY.

ANY photo-micrographic apparatus in order to be "complete" must embody not only the accessories necessary for producing negatives of the magnified microscopic objects, but must also be conveniently arranged for making lantern slides from these negatives, enlargements of photo-micrographs, where sufficient magnification may not have been practicable in the original negative, and for making copies direct from printed plates, drawings, etc.

In marking out so broad a field for the photo-micrographic camera we aim to define an instrument suited especially for laboratory use, where the results of individual research are to be transformed into a permanent record, and are to be made available for class demonstration. In this field results of immense practical value are easily to be obtained.

The projection microscope is limited in its usefulness to objects of comparatively gross structure, but there are few preparations which may not be shown with the utmost fidelity to detail by means of a properly prepared photo-micrograph or lantern slide.

The apparatus necessary for the work as indicated consists of a suitable source of light, the microscope, and the photographic camera. As between natural and artificial light, an artificial illuminant is to be preferred. Sunlight is not to be had at all times, even during the day, and its intensity constantly varies, while the apparatus necessary for its use is even more expensive than that required for artificial light.

Of the artificial lights, the electric, Welsbach gas lamp, and the oil light stand in the order named.

Electricity gives the ideal light, but on account of the expense of a suitable lamp, one which will furnish a steady flame that will remain constantly at one point, the Welsbach gaslight is more often used, its actinic power being very great and the flame also very steady.

While ordinary oil light is excellent in many respects and commends itself for cheapness, its wanting intensity requires much longer exposure than any of the others. This, however, is, perhaps, no drawback to its use except when the camera must be stationed where vibrations of the building are liable to interfere. While much of the best work has been done with the oil light, the tendency now is toward the more powerful and hence more rapid light.

Any well-built microscope stand, which is inclinable to the horizontal position, is adaptable for photo-micrographic work. It should, however, be mounted on a heavy base to insure stability. The fine adjustment screw must move with the utmost freedom and must be free from all lost motion. While not absolutely necessary, a mechanical stage and revolving nose-piece add much to the convenience and rapidity of work and simplify operations considerably. The microscope should also have a readily adjusted substage, capable of being easily centred to the objective.

The photo-micrographic camera differs from the ordinary, chiefly in the increased extent of bellows necessary in order to bring the sensitive plate far enough from the microscope to secure the desired magnification.

There are two principal types—one in which the microscope and apparatus for controlling the light is a part of the camera, and the other in which the camera is entirely separate, the microscope and illuminating accessories being placed on an optical bench, as shown in our illustration, in which case the microscope is con-

nected with the camera by means of a light-tight sleeve so constructed that the two instruments do not touch in the slightest degree. This arrangement prevents the possibility of vibrations in one piece of apparatus being transmitted to the other.

In order to make the camera available for the other necessary operations of reducing, enlarging, and copying, as well as for photo-micrography proper, it is necessary that both the front and back boards be constructed exactly alike, so that a plate-holder may be used on either end, and that they be provided with vertical and lateral adjustments. With this construction all of the above operations are easily accomplished. It is further necessary to have a wooden section in the middle of the camera, which should be provided with a lens board for carrying an ordinary photographic lens, and having a door opening at the side through which the lens may be introduced and attached in place.

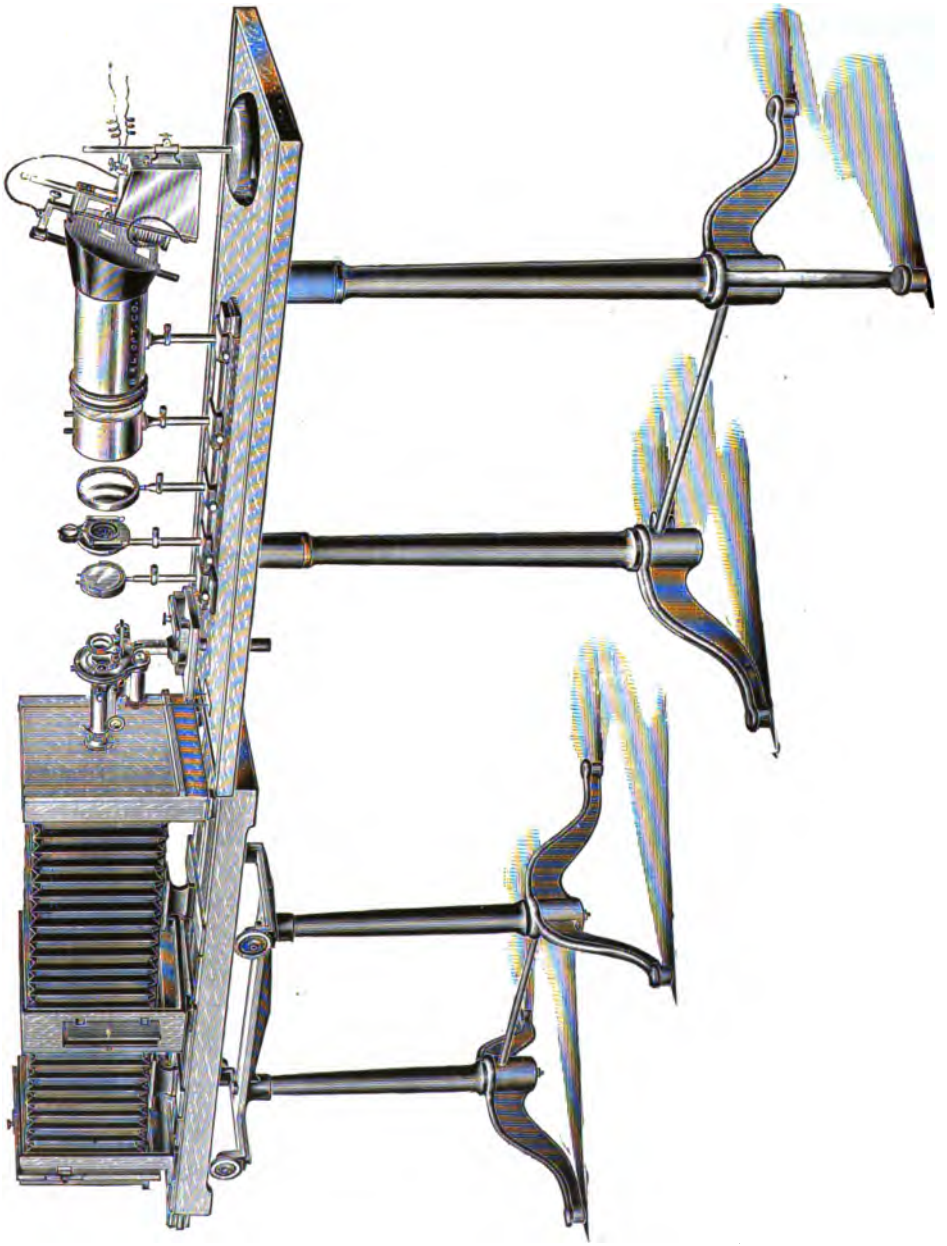
As the photo-micrographic camera requires to be frequently lengthened and shortened, it is necessary that an extremely stable form of sliding base be provided, as well as a delicate adjustable focussing rod, whereby the fine adjustment of the microscope may at all times be accurately manipulated from the back of the camera. The most practical focussing rod is that in which a metal tube of half the extension of the camera is made to slide outside of a rod of equal length, the connection between the two being made by means of a pin projecting from the inner surface of the tube into a groove extending the length of the inner rod. A pulley at the end of the focussing rod is connected with the fine adjustment of the microscope by means of cords.

In those cameras where the microscope and illuminating apparatus form a part of the instrument it is necessary to have an eye-piece tube with rectangular prism attached near the microscope, to aid in centring the object on the ground-glass screen. The eye-piece tube has cross-hairs so arranged that they correspond to the cross-lines on the ground-glass; thus, when the image of the object is centred with relation to the cross-hairs of the eye-piece tube it is also centred on the ground-glass. The eye-piece tube, being adjustable, may be moved forward into the path of the light when it is desired to centre the image on the ground-glass, and withdrawn again, permitting focussing on the screen.

For the best work, the placing of the microscope on an optical bench is unquestionably the most practicable. The camera itself, in this case, is carried on a perfectly firm table, supported by two columns, and having four grooved pulleys upon which the bed of the camera rests. This allows a horizontal movement of the camera, so that it may be moved back from the microscope during the adjustment of the object and quickly replaced for focussing on the ground-glass and exposure of plate. The optical bench consists of a heavy metal base with columns supporting a table of suitable dimensions for accommodating the necessary accessories. The following are the accessories, named in the usual order of their arrangement on the optical bench: With the electric light, triple condenser system, alum cell, diaphragm, ground-glass screen, ray filters, iris diaphragm shutter, and microscope. With the Welsbach light, simple condensing lens, ray filters, iris diaphragm shutter, and microscope. With the oil lamp the arrangement is the same as for the Welsbach light.

The proper centring of the illuminating apparatus is of the greatest importance in securing good results, and to this end all of the accessories on the optical bench are mounted on separate bases adjustable for height, the bases being movable on a slide

in such a manner as to always bring the centres of the various accessories in the same vertical plane. Therefore, the only adjustment required would be such vertical shifting as would make the various centres correspond with the optical axis of the microscope. By this simple arrangement the relative distances between any of the pieces may be readily varied for the different objectives used, without decentring, or any accessory may be entirely removed if desired. The first operation in the



COMPLETE PHOTO-MICROGRAPHIC CAMERA, CAMERA TABLE, AND OPTICAL BENCH,
As manufactured by Bausch and Lomb Optical Co., Rochester, N. Y.

preparation of the camera for work is the centring of the microscope itself to the camera. This is easily done by removing the eye-piece and objective and placing a diaphragm having a small, perfectly centred aperture in the place of the eye-piece. When the microscope is so arranged that the circle of light projected through the diaphragm is exactly in the centre of the ground-glass screen, the microscope will be properly centred to the camera. Aside from this centring, it is necessary to centre the illuminating apparatus itself, and to properly adjust it to give the best results. It is a primary principle that the image of the source of light must be brought exactly into the plane of the object when medium or high-power objectives are used. By this method a uniform illumination of the entire image-circle is secured, as well as illumination of the special part of the preparation to be photographed, and at the same time the full aperture of the illuminating apparatus is utilized. Experience shows that the results are better the more accurately the image of the source of light is focussed on the object. Overheating the object is prevented by inserting a cell filled with distilled water, or a solution of alum, which will absorb the heat rays between the light and the object. As the image of the flame, formed by the Abbe condenser alone, is insufficient for the best results, a double convex condensing lens, or the compound condenser system, is used to collect a larger number of light rays from the lamp and to project them through the achromatic condenser system.

To facilitate focussing the light, it is best to place a ground-glass screen on the microscopic stage in the position occupied by the object. The illuminating apparatus is now arranged *so that a perfectly sharp image* of the source of light is *visible* on this *ground-glass screen.* After taking away the ground-glass the image of the light will be found to be in the plane of the object. To secure best results, the focus of the condensing lens must fall within the focus of the Abbe condenser. In using the extremely low-power objectives, a slightly different method is advisable—*i. e.*, the image of the source of light is to be focussed upon the front of the objective itself instead of upon the object. This is easily accomplished by placing a piece of white paper in the position occupied by the front of the objective when focussed on the subject, and (the Abbe condenser being removed) focussing the image of the light sharply upon it by means of the condensing lens.

The majority of objectives in use for ordinary purposes are so constructed that only the red and blue rays of the spectrum are brought together to form the visible image, while the intermediate rays and those beyond the violet—the most active rays for the ordinary photographic plate—are brought to a focus at another point. It will thus be seen that in order to use these objectives for photo-micrography some means must be devised for eliminating this focus difference. It has been found that by the interposition of a ray filter of such composition as to prevent the passage of light from the violet end of the spectrum, at the same time permitting the free passage of those near the red, the desired result is accomplished, and one may obtain a sharp photographic image in the same plane in which the visual image appears, the visual rays, in fact, being the only ones present.

A suitable ray filter for photographing bacteria and other objects which have been stained with fuchsin, methyl-blue, or gentian-violet is prepared by dissolving 160 grammes pure nitrate of copper and 14 grammes pure chromic acid in 250 c.c. of water. This solution permits light rays of a wave length of from 570 to 550 only to pass and causes the objects stained with the above-mentioned solutions to appear

black on a green ground. For general work, a filter is made by dissolving 175 grammes copper sulphate, 17 grammes bichromate of potassium, and 2 c.c. sulphuric acid in from 500 to 1000 c.c. of water, the weaker solution being used with the oil light.

The use of these long-waved rays for photography necessitates the use of orthochromatic plates—*i. e.*, those sensitized for the the long-wave lengths of light. As such plates are now to be obtained of all the principal makers at the same prices as charged for ordinary dry plates, their exclusive use is recommended.

The necessity of using the yellow rays may be obviated by employing the new apochromatic objectives and compensating eye-pieces, which are free from focus difference.

As ordinary objectives are only corrected for a certain tube length, the best results are obtained with them by using an eye-piece. The eye-piece also obviates extreme extension of the camera.

The iris diaphragm shutter offers an extremely convenient means of making the exposures without danger of jarring the camera. It serves at the same time as an iris diaphragm, limiting the cone of light used to illuminate the object.

In conclusion, it must be remembered that much of the success of a photograph depends on the object itself. Sections should be made as thin as possible and should be well stained. The mounts should be free from all foreign bodies, thread-like appearances or spots, as these, although overlooked by the eye, appear with annoying distinctness on the photographic plate.

The color of the stain also influences the result, black and brown colors photographing best. By the use of proper ray filters and of orthochromatic plates, almost any color may be made to give a good image. It is also to be remembered that better definition is obtained in photographing a colored object when a large aperture of illumination is used.

Those who are interested in this delightful and useful branch of photography (and those who are to be) will be glad to know that all the elements we have described as necessary for the perfect apparatus to possess are embodied in the instrument just introduced by the Bausch & Lomb Optical Company, Rochester, N. Y. It is the result of conference with the best workers and the combined experience and skill of the makers. And since it will be better understood by means of a picture of it, we use one herewith.

NEWS AND NOTES.

NACHET, who is well known as the inventor of a chromo-stereoscope which shows a picture in the colors of nature and with natural relief, has recently constructed a camera by means of which the three negatives required in all the tri-chromatic processes of reproduction may be made at one operation. The essential feature is an arrangement of mirrors, but beyond this fact the details of construction have not been made known. It is expected that the apparatus with Nachet's chromo-stereoscope will be ready for sale before the year is out. The Ives stereo-photochromoscope is also to be placed upon the market at an early date, as also is the camera devised by B. J. Edwards for securing at one operation the three-color negatives essential in these methods of reproducing objects in color.

Since formalin is coming into general use as a useful addition in the dark-room, it may be well to point out that a strong solution will injuriously affect the hands, and that its somewhat unpleasant fumes play

havoc with the delicate membranes of the eyes and nose. There does not seem to be a remedy for these things, except care in the use of formalin solutions in confined quarters.

A new method of saving plates which have been considerably over-exposed is given in *Helios*. If in developing the plate blackens up all over, remove it from the tray and rinse it in running water. Now immerse it in a solution of 5 parts of nitrate of silver in 100 parts of water for several minutes, then lift it out, hold it horizontal, and pour the developer slowly over the film after the manner of developing a wet collodion plate. Under this treatment the image is said to appear gradually and with desirable vigor. It can afterward be fixed and washed in the usual way.

Andrew Pringle has an article upon "Acetylene for Photographic Purposes," in the last number of the English journal, *Photography*. His conclusions are that acetylene gives greater and more actinic illumination than any other artificial light except the lime-light, rendering it useful for enlarging or projection purposes; that with care its use need not be dangerous; and that the acetylene flame is singularly cool, giving off very little heat compared with gas or an oil lamp. An acetylene generator, in two handy sizes, intended for use in the projection of slides, etc., has just been placed upon the English market. From our foreign exchanges it is evident that acetylene is in much more general use abroad than on this side of the water.

Those who favor hydroquinone oftentimes refer to it as an exceedingly economical developer because the same solution may be used repeatedly. This is quite true, says H. J. Masse in the *Amateur Photographer*, but there are two points to be remembered. First, there is always a risk of staining the film when old hydroquinone developer is used; secondly, there is more risk of staining the fingers. Neither of these things is desirable, and the obvious moral is that it is safer and more comfortable to use a good proportion of new developer in manipulating each plate.

In 1887 Plommer, of London, exhibited a landscape photograph containing a picture of a rainbow, appearing on the proof as if the arch was solid. Mr. Muybridge states that a picture of a rainbow over the Yosemite Falls, California, was taken in 1868. In 1888 Dr. Keyser, of Chemey, took a fine photograph of the rainbow from the Rigikulm, using an azaline plate. So far as is known, these are the only instances of rainbow photography recorded.

Magic pictures, which only become visible by gradual development on the lantern screen, are made as follows: Upon a glass of the desired size, perfectly clean, we pour a solution of India-rubber in benzine, working as we should do with collodion, of a strength analogous to that of collodion. This must be allowed to dry, after which it is placed upon the design that we desire to reproduce. (There is nothing to prevent this from being a photograph.) Then with a very fine brush, dipped in a solution of bromide of copper, we trace the design. If the lines made are very heavy, the image will be visible, and the effect will be wanting; it must, therefore, be done very delicately. After having outlined the image, we carefully paint the trees, foliage, grass, in a word, all the verdure, with bromide of cobalt; the sky and water must be done with a solution of acetate of cobalt, with the aid of a very soft and fine brush. We mount this as we should do an ordinary lantern-slide. If the work is well done the image ought to be entirely invisible, but when placed in the lantern it will gradually appear to perfection under the influence of

heat. By these means may be depicted winter scenes, which under the action of the heat of the fire are transformed into scenes of summer; these return to their primitive appearance on cooling. With a little care and ordinary skill it is possible to obtain this pleasing and novel transformation with photographs.

St. Florent has communicated to the French Photographic Society the results of his latest experiments in color photography. He says: We obtain tolerably good results by the following method: Expose to the light a sheet of collodion paper such as may be obtained in commerce. The light should be strong sunlight, and the exposure from eighty to one hundred seconds until the paper turns a reddish black. It is then immersed for ten minutes in a bath made as follows: Alcohol, 100 minims; glycerine, 7 grains; 1 per cent. tincture of iodine, 7 grains; caustic ammonia, 6 drops. Dry the paper in a dark room, and expose it for one hour in sunlight under a colored image on glass or gelatine. Fix in a bath of 6 parts of hypo-soda in 100 parts of water. In this bath the colors assume a brilliant appearance, and then the image turns to a clear yellow. This effect is necessary. Remove the print from the bath and wash it, then dry it in the sunlight. As it dries, the heat of the sun causes the colors of the image to reappear in their original intensity, and the print is reasonably permanent.

The Photographic Salon, now open in London, is spoken of as perhaps the finest show of pictorial photographs yet gotten together. Over three hundred pictures are displayed, and an unusually large number of foreign exhibits are in evidence. The strongest features of the exhibition are its portraits and figure-studies, the land, river, and seascapes being referred as similar to those shown in former years. Of the printing processes used in the preparation of the exhibits, platinotype is that most generally used, after which come the carbon and bichromated gum processes.

A new convenience for the dark-room is the Climax graduate, which has the scale of measures embossed on the outside instead of being cut in as in the older kinds.

Bichromated gum process. A simple modification of the carbon process, which gives artistic effects, is given by W. C. Greenough, as follows: To produce a print with a matt-surface select a tube of moist water-color of any desired tint. Mix equal parts of a 40 per cent. solution of gum-arabic in water and a 10 per cent. solution of bichromate of potash in water and filter. Incorporate sufficient quantity of the tube-color to produce the tint desired, and spread the mixture on a sheet of smooth drawing-paper or other desirable surface with a two-inch flat camel's-hair brush. This should be done in yellow light, as the mixture is light-sensitive. Allow the paper to dry and expose under an ordinary negative in the way adopted in carbon printing. Place the print for a moment in a dish of lukewarm water, then lay it face up on a piece of glass, and develop the picture with warm water, as in carbon printing. When developed and cleared immerse in a 10 per cent. solution of alum, and wash. The pictures shown as produced by this method are charming.

Kite Photographs. W. A. Eddy, of Bayonne, N. J., has succeeded in securing several excellent bird's-eye views of Boston from a great height by means of a camera supported by kites. Mr. Eddy estimates that during the exposures the camera was fully 1500 feet above the pavement.

A complete series of photographs of the recent Chinese-Japanese war, taken on the

spot, forms a feature of the international photographic exhibition now being held at Berlin. The collection has excited much interest as the most comprehensive photographic record of war yet shown.

A New Print-washer. A very simple automatic washing-tray has been placed on the English market. It consists of an iron tray, about twenty by fifteen inches and three inches in depth; across the bottom of the tray from side to side is a tin division in pyramidal form; under the tray, in the same position, is a strip of metal, one edge of which is soldered to the tray and serves to lift the tray from the washing-sink. The tray is placed under a stream of water so that the water falls on the pyramidal division and into the half of the tray which is off the sink-bottom. This half, when full, tilts up the other half, and so causes the water to flow into the second division. A projecting screw is fixed at either end of the tray by which the rise and fall of the tray may be regulated. This makes a very efficient washer which may be constructed at slight cost.

Some weeks ago we received from Ferdinand Hrdliezka, of Vienna, samples of three kinds of his "Vindoboma Rembrandt Celloidin" printing paper, with matt and glossy surfaces. It is claimed that, with thin negatives, these papers render the details and relative values of a scene more faithfully than the ordinary print-out papers. After careful trials we find that the claim is justified, especially by the matt-surfaced variety. Mr. Hrdliezka's papers are worthy of attention by our manufacturers of printing papers; for the rendering of distant effects, atmosphere, and delicate gradations in values they seem to excel any domestic product.

A patent has been secured by two German chemists for the preparation of print-out paper in which the toning is accomplished simultaneously with the printing of the picture, the only after-treatment essential being fixing and washing. By this new process the difficult and uncertain operation of toning is done away with. The emulsion composing the sensitive film, which may be applied to paper, porcelain, or any similar support, is made up of collodion, nitrate of silver, chloride of gold, platinum, palladium, iridium, or osmium, according to the tone desired in the finished print, chloride of strontium, and citric acid; in other words, an ordinary print-out collodion emulsion with the toning salts incorporated.

PHOTOGRAPHING CLOUDS.

It is well known that the clear-blue sky has the same effect upon the sensitive plate as light clouds (cirrus and cirro-cumulus), and the intensity of the former must be moderated by the interposition of the yellow screen.

On the other hand, it is necessary that the plates should be sensitive to the transmitted yellow and green rays, hence orthochromatic. As a screen or filter one should select the best yellow glass. But as this article cannot always be procured of the proper intensity, an excellent and an effective substitute may be had in the use of a glass cell filled with colored liquid. Gelatine and collodion films dyed yellow are not to be recommended, inasmuch as their color changes under the action of light, besides losing much in transparency.

The glass cells for this purpose may be had ready made of the dealers in optical apparatus. They may be sealed at the top

after the introduction of the colored liquid by means of a flat piece of glass. They are best placed in the slot for the diaphragm of the lens.

The best preparation for filling these cells is a saturated solution of bichromate of potash, to which is added a few drops of hydrochloric acid.

According to the nature of the clouds to be photographed, a greater or lesser intensity of the yellow fluid should be employed.

For a light-blue sky, or with those delicate feather-like clouds denominated mares' tails, the saturated solution of the bichromate should be used.

For a darker-blue sky, with well-defined cirrus clouds, the saturated solution should be diluted with an equal volume of water.

For clouds still better defined, like the cumulus, so prevalent in summer, or the storm cumulus cloud, dilute the saturated solution with three volumes of water.

If the cell containing the bichromate solution is hermetically sealed it will last for a long time without any appreciable evaporation or crystallization of the salt on the sides of the glass.

The ordinary orthochromatic plates of commerce may be employed if freshly prepared.

The most suitable developer is the alkaline pyro. Begin with a mixture containing a minimum of bromide of potassium and very little pyro, and rather an excess of alkali in order to bring out the image rapidly but weak, which may be strengthened gradually by successive increments of the pyro, until the desired intensity is attained.

The exposures are necessarily very brief. With the employment of the yellow screen of greatest intensity and an aperture of lens $f/30$ cirrus clouds need only an exposure of less than six seconds. With an opening of lens $f/15$ and very bright cirrus $f/30$ second often suffices.—*Photo. Correspondenz.*

COLLODIO BROMIDE AND TRANSPARENCIES FOR PHOTOGRAVURE.

BY E. SANGER SHEPHERD.

In order to produce a photogravure plate it is first of all necessary to have a transparency made from your negative, and it is only by taking the greatest care that this shall be perfect for its purpose that a perfect plate can be secured.

It is necessary that this transparency should have every tone of the subject clearly defined, and with as wide a range of gradation as possible. It must start in the highest lights, with all but bare glass in every case, but the density of the deepest shadows must be in accordance, not so much with the subject as the nature of the grain to be used on the copper plate.

Roughly you may put it in this way:

1. Very delicate subjects with fine detail require a very fine even dust grain on the copper plate, and a very delicate transparency; all the detail must be there, but the deepest shadows must be decidedly thin.

2. All ordinary subjects, including negatives from nature, such as would print well on silver paper.

3. Reproductions of paintings with heavy masses of shadow, and very large plates, such as require a coarse grain in order to avoid muddiness.

For large masses of shadow and heavy subjects it is necessary to get very much wider range of tone in the transparency, because one must use a larger dust grain on the plate, and in order to get the requisite pluck the etching solutions must act longer on each tone, *i.e.*, the total time of etching must be very much longer. Instead of an even-sized grain for such subjects, I prefer to use a mixed bitumen and resin grain.

First lay a coarse bitumen grain, rather wide apart on the plate, and affix by heat in the usual way, then lay a copious very fine resin grain over the bitumen, and heat only sufficient to firmly affix it to the plate. With such a grain the fine particles of resin will soon be undercut in the deepest shadows by the etching solution, leaving the bitumen to form the ink-holding capacity of the plate, but the resin will secure delicate half-tones in the lighter parts of the picture, and the few dots of white in between caused by the bitumen will add to their brilliancy.

I have here and will pass around two transparencies. One is a carbon print, such as would yield a good photogravure; it is from a negative from nature, that negative being of such density that it will give all the gradations and density required by simply printing in autotype tissue. Where your negative is of this type and the required size, I think this process may always be relied upon to secure the finest results.

The second is a much more delicate subject, being a reproduction of a silver-point drawing. Such a subject requires a very fine grain, preferably white resin, and as that grain is very easily undercut by the etching solutions, it is necessary to get all the gradations in a very much closer scale.

Perhaps the easiest method of securing a transparency of any desired kind is to use collodion emulsion. Gelatine dry plate I know will do very well for many subjects, but I have always found collodion more certain and less difficult.

For the emulsion I prefer as simple a formula as possible, and after experimenting with many I settled on an unwashed bromide emulsion as the most suitable. The emulsion is made in bulk, using an excess of bromide so that in the unwashed state it is very insensitive; by using it in this form and afterward washing out the excess of bromide you may coat the plate in a good light, when all defects may be at once noted, dust, specks, etc., and then take the plate into a safer light whilst washing out the excess of bromide.

With such a plate any class of transparency required may be obtained with ease, by varying the exposure and length of development, a strong plucky picture from a very thin negative or *vice versâ*. I find it best with line subjects to get only a very faint image with the development and secure the requisite density by after-intensification.

To prepare 10 ounces of the emulsion dissolve 250 grains of silver nitrate in a test tube with 2½ drachms of water and add 2½ ounces of warm alcohol (0.805), weigh out 50 grains of pyroxyline, and place in a 12-ounce amber glass bottle, add the silver solution and 5 ounces of ether (0.725) to dissolve the cotton.

In 2½ ounces of alcohol dissolve 200 grains of zinc bromide, take the solutions into the dark-room, and gradually add the bromide to the collodion, shaking well between each addition.

For development I have always used the formula for pyro and ammonium given by Mr. Brooks:

No. 1.

Saturated Solution of Carbonate Ammonium	4 ounces.
Potassium Bromide	4 drachms.
Water to	20 ounces.

No. 2.

Pyrogallic Acid	6 drachms.
Alcohol	4 ounces.

For a half plate take ½ ounce of No. 1 and 6 to 12 minims of No. 2 according to the class of transparency required.

Either hypo or cyanide may be used for fixing, but if the negative is to be intensified I prefer cyanide, as the film can be washed in a shorter time; I never use a substratum but only an edging of rubber solution; dishes are not necessary, and

any size plate may be coated with ease without the uncertaiuty of using a different batch of emulsion as you would probably have to do with gelatine plates. A heavily weighted stone jar with a pad fixed in the mouth should stand in the sink to support the plate during development, etc.

It is always advisable to secure the necessary density of half-tone subjects by development or acid pyro intensification, but for line work I prefer to get a very faint clear image with the developer and intensify with lead; after fixing wash well and flow over with

Nitrate of Lead . . .	2 ounces.
Red Prussiate Potash . .	2 "
Water to	20 "

Wash well under the tap and flow over with water 10 ounces, nitric acid ½ drachm, wash, and flow with sulphide of ammonium, wash and again apply the acid. The very finest line work may be copied in this manner without fear of the lines filling.

For keeping the emulsion I use a 10-ounce ordinary wet collodion pourer with cap, kept in a tin with loose fitting cover, so that it may be easily taken off with one hand in the dark-room. For copying from line subjects on yellow or toned papers add a few drops of an alcoholic solution of erythrosine to the collodion and use a faint yellow screen.

Extreme contrast, such as required for line work, can be much more easily obtained with an unwashed than with a washed emulsion.

For line work in photogravure I prefer to have a very small amount of dust grain on the plate, and if the drawing contains brush work or large black patches, to let these go in the etching and recover their values afterward by re-etching. If you attempt to use a sufficiently large dust grain to give brilliant deep blacks the finest lines would etch broken or rotten.

I will pass around an example. There are in this drawing a great number of very fine lines together with solid patches of black; these fine lines if etched over a coarse enough grain to suit the black patches would have been broken up into dots, but by keeping the grain fine, the fine lines are all sweet and clean, and the solid blacks, which were undercut in the etching, have been recovered by after-biting.

I would like to mention a wrinkle in connection with line negatives. One sometimes wishes to copy a print on colored paper, and I have found it more easy to bleach out the color than to attempt to make a good line negative by the use of orthochromatic plates and a yellow screen.

I may say the only difficulty likely to be met with in making the collodion emulsion is with the pyroxyline; this should dissolve without leaving any glutinous particles. The best way is to try several brands, and when you get a suitable one, buy a quantity, a little sand of insoluble matter in the emulsion will not matter, but always shun a cotton which gives a floccy collodion.—*The Photographic Journal.*

OUR PICTURES.

OUR insert of studies this month is more than usually a mosaics, for it not only exhibits varied studies, but it also represents the best work of a number of the master photographers of our country, as follows:

The first four are from negatives made by Mr. W. M. Morrison, Chicago. Some of their excellence is due to the fact that they were printed on "Kirkland Lithium Paper." The tone of these prints is warm and such as the half-tone engraver prefers.

The simplicity and skilfulness of the positions arranged by Mr. Morrison are always worthy of study. Four of the admirable copyrighted productions of Mr. B. J. Falk follow. His children's pictures are always admirable and so life-like. The group of the young choristers is a most worthy production, not so easy to secure as it looks to be. A full-page reproduction of it will appear in *Photographic Mosaics* for 1897. It is one of our favorite pictures because of its extreme naturalness. The unconsciousness of the lads is worthily contrasted by the hilarious trio of young ladies, than which nothing could be more natural and pleasing. "The New Baby," by Mr. R. H. Furman, will meet love wherever it goes, we are confident. The two pictures by Mr. S. L. Stein, of Milwaukee, show forth his individuality in a way we have often described, or tried to. McCrary & Branson are rapidly coming to the front with the masters, and we welcome two of their natural pictures herewith. Last, but not least, are three admirable pictures left from a choice given us for 1897 *Mosaics*, by our veteran friend and inspirer, Mr. James F. Ryder. The portrait of the old gentleman is a particularly rare example. The half-tones scattered through our number all supply material for thought to earnest camera-workers, and all have been selected with a view to making them helpful to our readers. They are mainly the productions of the Albany Engraving Co., Albany, N. Y.

We begin this month to introduce a handsome addition to the embellishments of our MAGAZINE which we have planned to continue indefinitely, namely a full-page print upon *Velox* paper—sometimes "glossy," sometimes "matt" surface—from fine negatives by the very best grade of artists. The Nepera Chemical Co. agrees to manufacture very superior papers for our purpose, and we start out with this enterprise with the full hope that it will be of service and an acceptable addition to the attractions of our MAGAZINE. It will enable us to supply much larger studies than have ever been regularly given in any photographic magazine and permit the use of 8 x 10 or larger negatives, with all their advantages over the small size. In our next issue we expect to show forth plainly with what delightful ease and facility such prints can be made, and from time to time instruct in all we discover as we go on. We should say, "*Now is the time to subscribe.*"

The subject we begin with is "The Village Schoolmaster." It is from a prize negative made by Mr. W. G. C. Kimball, Concord, N. H. The negative is a fine one and the prints are as vigorous as the sturdy subject looks. We have painful recollections of such a stern old teacher, yet we are glad to perpetuate him in this way.

NEW BOOKS.

A MANUAL FOR CHINA PAINTERS. By Mrs. N. di R. Monachesi. 286 pp., with colored plates showing 138 facsimiles of mineral colors. Cloth, $1.25. Lee & Shepard, Boston.

This work is simply a practical and comprehensive treatise on the art of painting china and glass with vitrifiable colors. As such, it does not touch upon photographic practice, but we welcome it as an honest little book, written by an experienced worker in ceramics, and offering a great deal of useful information for the progressive photographer who, as a matter of growth, keeps in touch with all forms of artistic reproduction. It will be found

of special service to those interested in photo-ceramics, giving, as it does, the fullest information on the selection and use of vitrifiable colors, crayons, the manipulation of flux, firing the image, the management of the kiln, etc. The chapters on *mediums*, *brushes*, *the palette*, and *other tools* embody practical experience and convey instruction valuable to all colorists. It is a book which no worker in the arts can read without profit, smooth and sympathetic in style, clear and definite in its teaching. We cordially recommend it to all of our readers.

THE MAGIC LANTERN JOURNAL ALMANAC FOR 1896–97. Edited by J. Hay. Taylor. Published by the Magic Lantern Journal Company, London.

This, as far as we know, is the first year-book devoted wholly to the work of the lanternist, and contains a number of practical papers by writers whose names are "household words" among those interested in projection and lantern-slide work. The information offered is up to-date, and several excellent illustrations embellish the text. Among the papers is one on American Lantern Work, by Jex Bardwell, of Detroit. 200 pp. Paper covers, 75 cents.

ARTISTIC LANDSCAPE PHOTOGRAPHY. By A. H. Wall. Illustrated. Published by Percy Lund & Co., London.

This excellent text-book, like Mr. H. P. Robinson's *Pictorial Elements of a Photograph*, noticed in a recent issue, is pre-eminently a guide for those who think as they work. Mr. Wall has been known as a teacher in art in photography for more than a quarter of a century. His method of teaching is one well adapted to the beginner or expert, and the illustrations are well chosen to emphasize the cardinal principles of art as applied in outdoor work.

CARBON PRINTING. By William Weston. 64 pp. Paper covers, 75 cents; cloth, $1. Published by G. Gennert, New York.

This latest manual of the carbon process is in many respects one of the clearest and most practical yet published. Mr. Weston is a skilled carbon printer, and very concisely gives all the instruction needed for the production of carbon prints. Its appearance is timely, and we recommend it to all who seek a working knowledge of the printing process of the near future.

EARLY WORK IN PHOTOGRAPHY is the title of a compact and practical little text-book by W. Ethelbert Henry, just published by Dawbarn & Ward, of London. The book is intended for beginners, is simply and clearly written, well illustrated, and contains a specimen negative and positive, which will doubtless be appreciated by those seeking their first instructions in photography.

Penrose & Co., of London, have just published two handy little pocket-books, thin and of convenient size for the waistcoat pocket. No. 1 is on the HALF-TONE PROCESS, and gives much useful information in a clear readable type, with some time-saving tables. No. 2 is a READY RECKONER FOR PROCESS WORKERS, which enables one to instantly get at the number of square inches in a block of any size.

Toning Gelatino-chloride Prints. An excellent all-around toning bath for gelatino-chloride papers is made as follows: Prepare a stock solution of sodium acetate, 1 ounce; sodium bicarbonate, 1 drachm; water, 15 ounces. For use take 2 ounces of this stock solution, 16 ounces of water, and 2 ounces of gold chloride solution made by dissolving 15 grains of chloride of gold in 15 ounces of water.

ORTHOCHROMATIC PHOTOGRAPHY.

BY MILTON B. PUNNETT.

ADMITTING that there are virtues in orthochromatic plates, then why have they not come into more general use?

The answer, I think, lies in the fact that those virtues do not become apparent unless a yellow screen is used, or the plates are very slow. One can readily see from the above that a maker of orthochromatic plates finds himself in the following dilemma: If he makes his plates slow, so that they will retain their orthochromatic properties at a maximum, they will be too slow for general portrait work; and if he increases their speed, then they will partially lose their orthochromatic properties, and a yellow screen will be necessary, which will greatly increase the exposure and thus offset what he has gained.

But there is another method which seems to be quite overlooked lately. I refer to the "bath method." By means of a proper bath, such as published by Vogel, Obernetter, Ehrmann, and others, orthochromatic properties can be given to any clear, rapid, fine-grained plate. The orthochromatic effect is more pronounced with such a plate than with one dyed in the emulsion. Their greatest drawback is that they will not keep—only about eight days—but to the process-worker who knows a day ahead what work he has to do, this should be no detriment. In the evening he could bathe the number of plates he wishes to use next day, and dry them over night in a dust-free, well-ventilated room. Choose a plate free from fog and with not a comparatively yellow film.

That some makes of double-coated plates give very good orthochromatic effect with an increase in exposure is a fact that should receive more attention. Their keeping-quality being equal if not superior to that of the ordinary single-coated plate, is also greatly in their favor. Why they give orthochromatic effects is explained by the theory that those parts of the image formed in the upper coat by the so-called actinic rays become partially reversed by the comparatively long exposure, and thus begin to lose in density, while the non-actinic rays have in the meantime had a chance to build up their share of the image, thus overcoming the unequal effects of the light. The under coat prevents halation in the upper. It might be asked, why would not the effect of the actinic rays on the under coat counterbalance the effect produced by the reversal on the upper? The theory that a certain amount of light must necessarily act on the silver salts in the film before they are brought into a state susceptible to the developing agent, and that the total amount of light which reaches the under film in the given time is not sufficient to bring about this condition, I think explains the matter. If the exposure is very much prolonged the under film is affected.

While on this subject I would like to refer to an article which appeared in the October number of many of the photographic journals. The results obtained by the author of the article in question are, in a number of cases, contrary to the experience of others, and while the experiments may have been made and the article written with the best of intentions and honesty, the fact that three different brands of one maker's plates were used and but one each of the others, also the "Use-Dr.-Pedlar's-Pills,-Brown-Jones-&-Smith's-are-no-good" spirit in which it is written, detracts from its merits and creates a feeling of distrust of the results.

As the cuts to illustrate the article were furnished to the various journals, one can

conclude that the author either had the welfare of photographers very much at heart, or that there was "a greater power behind the throne."

In conclusion, I would advise the worker in his leisure time to try the different methods and plates with thoughtful care, and, when he finds something better than he has been using, to adopt it in spite of somebody's theory or chart. If he has no leisure nowadays, he's a lucky man. "Prove all things; hold fast to that which is good," is the apostolic injunction applicable here.

THE PRESERVATION OF THE PHOTOGRAPHIC IMAGE.[1]

BY CHARLES GRAVIER.

AFTER referring to the previous investigations devoted to this subject, and its constant interest to the photographer since the early days of photography, Mons. Gravier goes on to say:

"It is indispensable that the sensitive surfaces prepared for the negative and positive processes should, from the time of manufacture until the image they are to bear has been fixed upon them, be so protected that time, atmospheric and physical conditions shall not exercise a deleterious influence. The materials and methods used in packing sensitive plates and papers need more careful attention; there is also need of more carefulness in the handling and repacking of the plates and papers in our dark-rooms and printing departments.

"First, all sensitive surfaces used in photography must be properly protected from acid, ammoniacal and similar vapors, especially sulphuretted hydrogen. For this we can recommend nothing so completely fitted to its purpose as paper rendered tough and impervious by being coated with paraffin. This paper is commercially obtainable in many varieties; that chosen for photographic uses should be without roughness, preferably yellow in color, and of fine quality; the inferior sorts are not impervious to chemical action.

"For the preservation of daguerreotypes nothing better can be devised than the old method of air-tight casing behind glass, adopted when these pictures were in vogue. For the protection of the ferrotype a clear hard varnish, such as we get by combining amyl acetate with collodion, offers a perfect finish and preserving film; or we may coat them with a 2 per cent. solution of paraffin, and further protect them behind glass. Positives on glass are also yet best preserved by a coating of hard crystal varnish; if intended to be viewed by reflection, then a good black water-proof varnish should be used.

"For the protection and preservation of the negative varnishes of all kinds have been advised from time to time. In my experience paraffin [as recommended by Mr. Jex Bardwell in a former number of this MAGAZINE.—ED. W. P. M.] is by far the most effective and economical. A new mineral product, ceresine, not yet used in photography, would seem to offer a protective agent, coming between wax and paraffin. The quality known as crystallizable should be used; it is white and is soluble in benzine. Film negatives should be first coated with collodion on both sides, and then given a coating of paraffin or ceresine. To keep them from harm, pack them away between sheets of bibulous paper bound with cardboard.

"Turning now to the prints produced in photography, Davanne and Girard have shown that a silver print, well toned, fixed,

[1] Extracted from a paper read before the International Congress of Applied Chemistry, Paris, 1896.

and thoroughly washed, may be considered as permanent. Experience seems to prove that of the processes in which silver-salts are used the most permanent prints are those obtained by development. The prints obtained by Blanquart-Evrard in 1851 by the so-called development method, and gelatino-bromide prints dating back to 1881, seem to substantiate this assertion. Such prints, however, may be further assured of protection against harm by coating them with paraffin, as was proposed by Cooper thirty years ago, and more recently by Leon Vidal for all prints.

"In well-sealed packages gelatino-bromide paper seems to retain its sensitiveness for years. This cannot be said of the chloride papers now so common, many kinds of which sensibly deteriorate day by day. Liesegang wraps his print-out papers in first a stout paraffin parchment paper, next in a paper of tinfoil. We have used his paper when over a year old and obtained prints as fresh as could be desired.

"Before the permanency of the new print-out papers can reasonably be assured, it is essential that the baryta base on which the emulsion is coated shall be modified or changed. This baryta base often contains lead salts which rapidly destroy the beautiful image so skilfully made in the atelier. It is to this and similar defects in the baryta undercoating that we must attribute the yellowing of the tones of pictures on these aristotype papers.

"The pernicious action of the combined bath must receive attention when we set forth to investigate the permanency of prints. We have recently seen prints made on albumenized paper and toned in a combined bath change very quickly, whereas albumen prints made almost forty-years ago and toned in a combined bath with the same formula are still in an excellent state of preservation. We attribute this change to the present custom of using putrefied albumen to secure more brilliant surfaces in the prints. A return to freshly prepared solutions is evidently essential.

"The papers used in the heliographic processes of printing with iron salts (ferro-prussiate and Pellet processes) may be preserved in good order for from six months to a year if properly protected in waxed or paraffin paper.

"Platinotype paper, closely sealed in the chloride of calcium tube supplied by the makers of the paper, will print well after being stored a month or more. After development platinotype prints are passed into an acid bath. The permanence of these prints depends upon the complete removal of the acid from the prints by repeated washings.

"The printing processes based on the use of chromium salts are known as carbon, Artigue, and bichromated gum processes. In a non-sensitive state the papers used in these methods will keep indefinitely. When sensitized they should be used within three days, and when the pictures are developed all traces of the chromium salts should be removed by repeated washings.

"It is well, in order to facilitate the removal of these salts, to pass the prints, after several washings, through a weak alkaline bath as indicated by Pretsch (1857), who advised borax as the alkali; Monckhoven (1870), who used bisulphite of soda; Siébert (1894) and Huillard (1896), both of whom recommeded sulphite of soda.

"To conclude, the findings of Messrs. Davanne and Girard, that silver prints are normally permanent and that their fading can be traced to removable causes, are precise and exact, being confirmed by experience. By giving the prints a coating of paraffin or ceresine the changes springing from adverse atmospheric conditions may be avoided."

PREMIUMS FOR NEW SUBSCRIBERS.

CALLING attention to *The Ground-Glass* reflections on this subject on the first page, we hereby offer to our subscribers who will aid in extending the circulation and usefulness of our MAGAZINE *one dollar's worth of books for every new subscriber for a year.* These books may be our own publications advertised by the publisher, or of those published by the *Century Co.* You can write for the *Century Co.'s Catalogue* and *take your choice.* Here is a chance to add to your stock of literature of the first class for yourself or help, for your family at large, or for your children. The offer is "a bonanza," and it will take only the disposition to try to gain a rich reward. You have everything good offered to help you, including the good motive which starts helping all around.

The special premium for the one sending us the largest number of new subscribers for 1897 will be announced in our December number. All hands take hold! Read *The Ground-Glass.*

EDITOR'S TABLE.

IN order that there may be no misunderstanding, we desire to say that the imprint under "A Dozen Prizes," by Messrs. MCCRARY & BRANSON, in our last number, being somewhat vague, we desire to explain. The pictures used were all made *since* the winning of the prize at Celoron. Nevertheless they are "a dozen prizes" to all of our readers, as sweet studies, and that is what we meant to convey by the title, and not to say that they were selected from the Celoron exhibit. Messrs. MCCRARY & BRANSON, although they surely did receive "first prize, Class A, southern division," at Celoron, do not wish to, neither need they, sail under any false colors. See *Mosaics*, 1897, for a reproduction from one of their excellent larger works, which *was* exhibited at Celoron, and entitled "Three Roses."

THE PAPER PROBLEM.—Very much interest has been felt by printers, especially in the careful articles contributed to our MAGAZINE by Mr. D. BACHRACH, Jr., upon photographic papers. They are valuable and worthy of most careful consideration. As Mr. BACHRACH went on with his experiments to enable him to arrive at proper conclusions, he placed his experimental prints in a drawer in his laboratory. About three dozen of these prints he has forwarded to us for examination, and we note that from the careful study of these object lessons he was enabled to write as he did.

In concluding a recent letter to us he very aptly says:

"The lesson these prints teach is a very painful one on the one hand—painful in showing what a terribly black eye photography is sure to receive from the general use of print-out emulsion papers (as I find this state of affairs universal); and it also teaches, however, that we must not make the mistake of using too weak fixing baths for albumen prints, if we would avoid yellowing of the high-lights in time. They also emphasize what I have always claimed in writing: that, as compared to modern emulsion prints, the albumen pictures are as a rock compared to grass in the matter of resisting the elements of destruction. You will notice the general change to *blue* in the faded gelatine prints, showing the evident effect of action by sulphur compounds. On the contrary, prints with collodion emulsions turn red and foxy from lack of reduction of the silver image to gold (as if carried very far the tones are cold and disagreeable), and the fading then, as usual in the case of plain, fixed, untoned silver prints, only it is much more rapid on account of the tenuity of the reduction on such emulsions. The evident weakness is in the *emulsions*, as not affording the strength of image chloride of silver made by direct reduction on the paper surface does, as in the old method."

A COLOR POSTER announcing the Second Annual Convention of the Photographers' Association of Michigan is at hand. The convention is to be held at Detroit during February. The prize list has already appeared in our pages.

Shakespeare's Town and Times, by H. SNOWDEN WARD and CATHARINE WEED WARD. London: Dawbarn & Ward, Limited; New York (65 Fifth Avenue): Truslove & Comba, publishers. Price, $2.50. This is a magnificent contribution to Shakespearean literature. It is profusely illustrated throughout, and its literary character is excellent, showing persistence, patience, a careful understanding of their task, and thoroughness on the part of the well-known author-photographers. "Our task" (say they in their introduction) "has been a simple one: to write in plain words the tale of Shakespeare's life, to picture what remains to us of the scenes which Shakespeare saw." As we have said, the "task" has been honestly done. It is accompanied by a triple-page plan of Stratford-on-Avon, and a satisfactory index. There are nearly 200 royal octavo pages in the book. We wish the illustrations were indexed or numbered, so we could tell how many there are. We know they count over one hundred, and many of them are full page.

ORTHOCHROMATISM.—Apparently the article on this topic, contributed to our last number by Mr. S. H. HORGAN, has excited comment by its frank statements. The paper on the subject by MILTON B. PUNNETT, in this issue, will repay careful perusal. Let us have more light on the matter.

PASTEL WORK FOR THE HOLIDAY SEASON.—We again direct attention to the newly-published manual, *Portraits in Pastel on Solar Enlargements*, by E. LONG. This long-needed guide offers a practical introduction to a profitable branch of professional photography. Progressive photographers everywhere will do well to avail themselves of the opportunity here offered to secure a hold upon what metropolitan leaders have long recognized as a lucrative specialty.

Given a suitable photographic base, by which the difficulties of drawing are obviated, pastel portraiture is an accomplishment within reach of the majority of photographers. The chief difficulty hitherto has been the lack of practical instruction and a convenient equipment of materials. These are now obtainable at a slight cost. We will send the instruction-book, postpaid, for $1, and forward circulars of information relating to the necessary outfit on application.

Mosaics, 1897, will be ready for delivery as soon as our December number appears. It will be a grand volume—practically as well as pictorially. The best of the year-books. The Advance Order List is rapidly filling with the names and addresses of anxious ones. Send your order, with cash, to day, and secure an early copy. A partial list of contents appears in our advertising pages. It should be seen. Last year the edition bound in cloth was exhausted a few weeks after publication, and many late comers were disappointed. Be in time. Paper covers, 50 cents, postpaid. Library edition, $1.

ALL ON THE GROUND FLOOR is the heading of a postal card received from a subscriber, announcing his occupation of a new gallery at 1449 Mullanphy street. No town or State is named, and the postmark is illegible. Will the sender please supply particulars, so that we can correct his address on our subscription list.

SEED'S POSITIVE CELLULOID FILMS are a good thing not yet sufficiently appreciated, admirably adapted for the holiday trade. Send to GEORGE MURPHY, 57 East 9th Street, New York, for a circular of information. It will pay you to be posted.

THE DIXIE VIGNETTER.—The SCOVILL & ADAMS CO., New York, whose advertisement appears in this issue, have secured the trade agency for this well-known vignetter, and are prepared to fill wholesale and retail orders. The Dixie Vignetter can be obtained from any dealer, but in case your local dealer does not stock it, orders addressed to the SCOVILL & ADAMS CO., 60 and 62 East 11th Street, New York, will receive attention. We have used this vignetter, and can recommend it as an excellent device.

PORTRAITS FOR THE TRADE.—Frequently, of late, we have had complaints from subscribers dealing with unreliable houses furnishing enlargements and portraits for the trade. The best remedy in such cases is to employ the services of those who advertise in the MAGAZINE and whose good-faith may be relied on. The INTERNATIONAL CO., 56 Fifth Avenue, Chicago, are conducting a thoroughly satisfactory business in this line. Their trade extends to England, France, Central and South America. The reason of their success is that they offer good work at a very moderate profit and give their patrons careful treatment. They will send their catalogue free to any address on application.

GET *Mosaics*, 1897. It will *not* cost you 75 cents, with added postage. Price, 50 cents, postage free. Full of useful information and choice engravings.

METACARBOL, the new developer introduced by Messrs. E. & H. T. ANTHONY & Co., New York, gains in popularity. Many of the leading photographers have spoken in its praise. Mr. Van Norman, of Buffalo, writes:

"Having used Metacarbol for a developing agent since its introduction, with wonderful success, I can most heartily recommend it for *its many qualities which are an advantage over all other agents for developing now in use.* In the first place it is *very uniform; no danger of fog;* works *equally well* for *under- or over-timed plates;* gives the *finest colored negatives possible*, which produce *beautiful rich prints* with *all details fully preserved.* Being a one-solution developer makes it *convenient to work; always ready for action; does not injure the hands or system*, nor leave the hands in an unpresentable condition. My method of using is to mix for use a quantity sufficient for the development, say, of twenty-four cabinet negatives. When through, put in bottle and cork tight. For next development add a small portion of stock solution; continue with same result as at first. This will last by this method for some time, making it an inexpensive agent. The result of last will be equally as good as first. My method of mixing is to take half an ounce of Metacarbol, one ounce of caustic soda, two ounces of sulphite, and fifty ounces of water. Be sure to dissolve the Metacarbol and the caustic soda in a little hot water for a couple of hours, or longer if convenient; then add sulphite and water. For use, I take one ounce of solution to two and a half ounces of water. This will produce beautiful results. I have never had any trouble with under- or over-timed negatives. You will, when you come to print, find the beautiful effect, and all worry and trouble of over- or under-timed negatives, which so much destroy the pleasure of the photograph business, will cease.

"J. H. VAN NORMAN, Buffalo, N. Y.,
"Champion for Metacarbol since its first inception."

N. B.—It will be noted that Mr. Van Norman gets *350 ounces* of developer from *one* ounce of Metacarbol.

STOLEN.—The following lenses were stolen from C. M. FRENCH, of Binghamton, N. Y., on September 27th: One 8 x 10 B. & L. Universal Port, Iris D, No. 50,951; one 6-2 8-2 Eagle Portrait lens, No. 855; one 6-2 8-2 Capitol Portrait (number on flange), No. 858; one 11 x 14 B. S. L. Universal W. A., No. 50,985; one 8 x 10 B. & L. Zeiss series IV., No. 50,962; one 6-2 8-2 B. & L. Zeiss series V., No. 50,955; one 8 x 10 Gray Rect. lens and Marvel shutter; one Scovill brass-mounted finder. Total value, $300.

If any of the above are offered for sale, notify C. M. FRENCH, 120 State Street, Binghamton, N. Y.

A liberal reward will be given for the recovery of any or all of the above. The help of fellow-photographers and dealers will be greatly appreciated.

EMPIRE COLLODION GLOSS and Empire Collodion Matt are two new printing-out papers, being introduced by the EMPIRE PAPER CO., 60 & 62 East 11th Street, N. Y. The excellent results given by these papers indicate that they will speedily become popular with professionals and amateurs. Samples may be obtained from the EMPIRE PAPER CO. The paper may be obtained from your dealer.

WEBSTER'S *Outlines of Chemistry* is, for its size, the most compact dark-room assistant extant. It gives simple lessons in chemistry in language so plain that the reader learns before he is aware of making an effort. Pocket size, 75 cents, postage paid. Every photographer should have it.

THE THORNTON-PICKARD SHUTTERS (ANDREW J. LLOYD & CO., agents, Boston) grow in favor as they become known. Our experience with them has been wholly favorable. Since Messrs. LLOYD & CO. undertook their sale in America they have filled orders from every State in the Union. The Thorton-Pickard Silent Studio Shutter is a specialty for professional photographers and should accompany every studio outfit.

THE ALBANY ENGRAVING CO., Maiden Lane, Albany, N. Y., well-known to our readers as the makers of many of the fine engravings which have appeared in our pages during the past few years, have recently made improvements in their mechanical equipment, and are now prepared to execute, at short notice, and in the best way, all kinds of photo-engraving and reproduction work. This enterprising house regularly employs an artist of ability to improve the originals sent in for reproduction and in every possible way secure the best possible results. Mr. A. H. CALDERWOOD, a member of the firm, gave us a call during his last visit to New York and reported steady progress despite the desperate condition of business. We have watched the gradual growth of this company of young workers with continued interest, and recommend their services to our readers with every confidence.

"YOUR OCTOBER NUMBER is fine; the best paper of its kind that I have seen," writes Mr. OTTO VON BARGEN, an enthusiastic amateur photographer from San Francisco. Mr. VON BARGEN'S opinion is verified by our increasing sales and subscription list. Of the August, September, and October numbers of the MAGAZINE less than a dozen copies remain unsold. If your subscription has expired, renew it without delay to avoid missing a number. We cannot promise to send the MAGAZINE after a subscription has expired. A prompt renewal is a favor which works two ways: The subscriber gets the MAGAZINE regularly, surely, and promptly, and the publisher's work is made easier.

RAYON PAPER, the latest gelatine paper, is an honest paper, working easily and giving fine tones with a simple gold bath. Our trials of it prove that it fulfils all the claims made for it by the manufacturers, Messrs. ANDREW J. LLOYD & Co., Boston, Mass. Give it a trial.

THE TABER BAS-RELIEF PORTRAIT.—An action has been instituted in the United States Circuit Court for the District of California, by the TABER BAS-RELIEF PHOTOGRAPH Co., as assignee of the patent for a new method of embossing photographs, issued to FREEMAN A. TABER, against THEODORE C. MARCEAU, a photographer of the city of San Francisco, for infringement of the Taber patent, by making and selling embossed photographs in a manner covered by the Taber patent, without license or permission. Damages for infringement are also claimed against MARCEAU. It is the intention of the TABER BAS-RELIEF PHOTOGRAPH Co. to protect their patent and to prevent any unauthorized use of their invention by any person or corporation.

MR. PETER DILLER, Bluffton, Ohio, sends two convincing illustrations of the business pulling possibilities of his Klay Multiple Plate-holder. Photographers looking for a persuasive holiday novelty should write for his circulars. The Multiple Holder will make any number of exposures from two to twenty-eight on a 4½ x 6½ inch plate, either of the same or different subjects, and is a sure trade-winner.

A GOOD OPPORTUNITY.—Mr. JOSE ANJOU, photographer, of Antigua, Leeward Islands, asks our aid in securing for him as business partner an active, enterprising young photographer. Mr. ANJOU'S business is growing too large for his single direction, and he will be glad to communicate with a suitable man desiring to recuperate his health, and at the same time improve his business prospects.

A SERIES OF CHARMING LANDSCAPE STUDIES, printed on platinotype paper, has been received from our old artist friend, Mr. W. G. C. KIMBALL, Concord, N. H. The scenes portrayed with so much skill are laid about Mr. KIMBALL'S New Hampshire home, and vividly recall our many pleasant holidays in that locality. Mr. KIMBALL is one of the many professional photographers who devote a portion of the time, wisely and profitably, to landscape work. The pictures before us evidence his love for the hobby, and the pleasure he had in their production. As platinotypes, also, they are worthy of admiration.

ALEXANDER BLACK, whose picture-plays, "Miss Jerry" and "A Capital Courtship," have brought him fame, tells in the November *Scribner's* of "The Camera and the Comedy; how his pictures are made, and the difficulties which present themselves to the artist." It will interest especially everyone who has either had a camera or hopes to have one.

MR. W. I. SCANDLIN, formerly connected with Messrs. E. & H. T. ANTHONY & Co., and later manager of the HELIOTYPE Co., of Boston, now holds a responsible post with Messrs. CHARLES SCRIBNER'S SONS, Fifth Avenue, New York. Mr. SCANDLIN'S many friends will wish him well in his new labors.

MR. HERBERT RANDALL, the artist-photographer, of Ann Arbor, Mich., and New Haven, Conn., was married a few weeks ago, the happy bride being Miss A. E. SAWTELLE, of Waterville, Maine. We offer them our warm congratulations and best wishes.

CARBON PRINTING.—The revival of this beautiful printing process makes timely the two practical papers dealing with its manipulation given in *Mosaics*, 1897. Every professional should read these two articles and begin to put in practice what they teach. The carbon print offers a ready and inexpensive means of raising prices on high class work, and should have the earnest attention of progressive workers. Mr. G. GENNERT, 24 East Thirteenth Street, New York, has a little leaflet on the subject which may be read with profit.

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WILSON'S PHOTOGRAPHIC MAGAZINE.

EDITED BY EDWARD L. WILSON.
JOHN A. TENNANT, Associate Editor.

VOL. XXXIII. DECEMBER, 1896. No. 480.

ON THE GROUND-GLASS.

The Ground-Glass claims having completed its *thirty-third year* of focussing, and desires to be congratulated.

Congratulations are extended to the readers of this MAGAZINE upon the prospects of a brighter future, together with cordial good-wishes for one and all during the coming new year. As there seems to be no law against it, *The Ground-Glass* trusts that we may all continue to *work together* for the advancement of our fascinating art. Let us be careful of our artistic footsteps; keep on the alert and discriminate as to where and how we walk —that is, to attend diligently to business and not to intrude where we have no business to intrude.

The Ground-Glass does not mean to discourage any aspirant in photography from making thoughtful, legitimate experiments— *i. e.*, walking even in the highest realms of art; but advises the diligent study of the law first.

In the summer of 1892 a firm of masons and builders was engaged in erecting a large building on Broadway, and had in the course of the work made a deep excavation extending under the sidewalk, as is customary in such cases. From the inner edge of the sidewalk they had placed a number of planks extending some way into the building thus partially erected. These planks, constituting what is called a "runway," were for the use of the workmen employed there, and were not protected by a handrail or other guard to prevent falling into the pit below. One day a man of middle age, while passing along, became interested in the work, and while looking around walked in on the runway. He lost his footing, fell off, and was killed. His widow sued for damages.

The court decided that he had no business on the runway, that he was a trespasser; that the masons and builders owed him no protection and were in no way responsible for his death.

Let not our footsteps, then, good-fellows, follow in directions which lead only to mischief. Aim high, but do not get your heads so high that you cannot watch your footsteps, and fall, as in the case related.

"Our brains," says the psychologist, "are full of cells." These "cells" are the receptacles for ideas. To fill them with such ideas as will lead to the production of *the best* in any vocation—to prevent life from becoming one grand and disappointing cell, is the duty of everyone engaged in the world's work. There are those whose nerves are worn out, whose eyes are surrounded by crow's feet, and

upon whose soul a dull weight settles, because of the effort to succeed—because the effort made is not put forth in the right direction.

A collector of ideas you should always be—for your cells—but success in your art depends upon your collecting the best. A formula for doing this is found in *Romola*, as follows:

"If you mean to act nobly and seek to know the best things God has put in your way, you must learn to fix your mind on that end." And now again from *Romola* we learn the fate of the unwise collector of ideas: "Because he tried to slip away from everything that was unpleasant . . . he came at last to commit some of the basest deeds."

The collector of ideas is more happy than the collector of things material. The collector of ideas converts to opportunities of gain what otherwise were mourned as occasions of loss. We hear much about the evils of desultory reading in these days, when all periodicals are cheap, and many of them good. Yet what newspaper or magazine but contains a fact, or a hint for the eye alert to catch a new item, on the daily work of the most of us? Anybody interested by virtue of that very fact will be likely to read only the meatier kind of periodical. Thus the risk of what the French call "distraction" is reduced or done away with; and the mind intent on finding illustrations and related facts rejoices in harvests more ample and various than were ever possible before.

To know what you want to know is the first step toward proper cell-filling:

So great an observer as Faraday, when shown a new experiment, was wont to ask: "What am I to look for?" A collector of ideas should know exactly what to look for; he should be on the watch for some definite thing. He finds it where a good general observer, lacking his particular interest, sees nothing. "Think birds and you will see birds," says John Burroughs. The psychologists follow him with a further word of comfort. They tell us that beneath the conscious workings of the brain is a broad tract of cerebral activity wholly or almost wholly unconscious—our brain-cells "like the horse-leech, ever cry for 'more.'" One goes to bed with a puzzling question, and awakens at dawn with the answer, justifying the sagacity of old-fashioned people who never render an important decision without "sleeping on it." When the conscious intelligence busies itself for months and years with a question, the brain seems to acquire momentum and attacks the problem on its own account. Thus it may happen that at last it sends a shaft deep enough to free a fount of long-hidden thought, which rises to the surface with refreshing fertility.

Get some momentum in the track of these ideas. *The Ground-Glass* sincerely offers them for the new year; keep up the practice of moving—do not stand stupidly still. You will be pleased with the results if you keep moving right on.

A great necessity to the collector of ideas is seriousness. It will enable him to see what others see not—both in the light and in the shadow of things—the best things and the most effective scenes come to the serious observer. Have you never walked by the sea or by the river-side, or stood upon the mountain, filling your brain-cells with what comes to you from the sunset, while your companion cared more about wiping his forehead or picking the "stick-tights" from his clothing, doubtless mentally thinking that he was a good-natured fellow because he patiently waited while you "enthused?" What *he* saw did but little for his brains. But if, then, you were the right sort of a "collector," you could and would see what *Romola* saw once upon

such a time: "But presently the light burst forth with sudden strength, and shadows were thrown across the road. It seemed that the sun was going to chase away the grayness. The light is perhaps never felt more strongly as a divine presence, stirring all those inarticulate sensibilities which are our deepest life, than in these moments when it instantaneously awakens the shadows."

The Ground-Glass's moustache rises a little at the ends when a brain-cell empties itself of some thoughts suggested by such an airy and despondent photographer's letter as has been just received, and causes the thought to arise that many who read the above ideas will treat them cynically. This is what the fellow-worker says: "*Me* an artist! *Bosh!* I am only a mechanic, and there is no art in me, neither is there any chance for art in photography. On the wall of my hotel room I find posted the following:

DIRECTIONS FOR USING BELL.

PRESS

1 time for bell-boy.
2 times for ice water.
3 " for hot water.
4 " for towels.
5 " for chambermaid.
6 " for porter.
7 " for writing material
8 " for bath.

And so it is with we-uns:

1. Sit down.
2. Hold up your chin.
3. Turn your face—so.
4. Wet the lower lip.
5. Now! right still.
6. (In the dark-room) Oh! she moved!
7. I try again.
8. Bath.

In both situations we end the same. It is all unclean. I have no right to call myself an "artist," much though I want to be one.

9. Oh! for more oil, or it may be sand.

This sort of disconsolateness often comes to good workers, because doubts arise; and fear follows doubts. It may be that our correspondent, as he suggests, really needs more "sand." If so, *The Ground-Glass* suggests a bit of suggestive cheer for him. It may be found in *Harper's Magazine*, September, 1896, in a charming story called "His Duty," by that talented amateur photographer and author, Miss Octave Thanet. We quote from "His Duty," as follows:

"And you don't know, either, that at first, keeping a little studio on the third story, with a folding-bed in the studio, and doing my cooking on the gas-jet, I was a happy man. But I was. I loved my art. Maybe you don't call a photographer an artist. I do. Because a man works with the sun instead of a brush or a needle, can't he create a picture? and do you suppose a photographer can't hunt for the soul in a sitter as well as a portrait-painter? Can't a photographer bring out light and shade in as exquisite gradations as an etcher? Artist! Any man that can discover beauty, and can express it in any shape so other men can see it and love it and be happy on account of it—*he's* an artist! And I don't give a damn for a critic who tries to box up art in his own little hole!"

Now, a word for the business photographer, and we close. A grocer neighbor has mailed us this:

"The windmill has power only in proportion as it is acted upon by the surrounding elements, yet it always stands ready for action. So with myself. I stand ready at all times to serve you with the fullest and

most complete line of groceries at correct prices. Yet with all I am powerless as the windmill without wind unless acted upon by the elements of good judgment and determination on the part of my customers to make the best of the opportunities I offer in the way of prices. I press my claim for your trade on right goods at right prices, nearness of location, and cleanliness. I respectfully solicit your patronage, guaranteeing satisfaction and correctness."

Are we not all "powerless as the windmill unless acted upon by the surrounding elements?"

As the collector of these ideas, *The Ground-Glass* suggests that we all forget the drawbacks of the past; and may you, gentle readers, one and all, be you Amidolites, Metolites, Glycinites, Hydrochinoners or Non-halationists, all find your future troubles no greater than will go inside of a developer tabloid. And may one and all experience a growing, prosperous, happy 1897.

PAPERS FOR PROFESSIONAL PHOTOGRAPHERS.

BY JOHN A. TENNANT.

XXI. HOLIDAY TRADE.

THIS is to be a busy month, and I must be brief. As a matter of course every photographer has more or less holiday trade at this season—business created simply by the near approach of the great festivals of Christmas and New Year. And since this "gift of the gods" will be beginning to materialize when THE MAGAZINE reaches its readers, we cannot do better than give a few minutes to a consideration of its possibilities and profitable handling.

First, however, let me point out that in this end of-the-year revival of business the American photographer is much more favored than his European co-workers. Here the clear skies and fair weather, which usually prevail until the close of the year, together with the goodly custom of using portraits as appropriate holiday gifts, keep our studios busy while the photographers of less-favored lands sit with folded hands under skies of gloom. It is a favor which should be appreciated and—"worked for all it is worth."

What have you done, or what are you doing in preparation for the holiday business? It is a business opportunity in which there are hardly any blanks, but wherein the biggest prizes fall to those who handle it with the greatest skill. It offers opportunities not only for present profit, but also for those important aids to success, the promotion of good-will between photographer and patron, and the building up of a higher class of trade and more remunerative prices. Which things we all desire.

The means and ways by which a man may make the most of his holiday trade must, of necessity, vary according to the business in which they are to be applied. If I can only awaken enterprise these ways and means will suggest themselves to the progressive reader. The great trouble is that many photographers class enterprise with virtue and other high-toned notions, as something to be shunned rather than cultivated; whereas it is simply something which makes two dollars grow where only one grew before.

Let us infuse a little enterprise into the handling of the holiday trade, and see what will happen. First, it suggests the preparation and mailing of a personal letter (good typewritten duplicates at $6.00 for 500 will serve the purpose admirably) to a selected list of local residents. This letter

should refer to the coming festive season, the pleasures of gift giving and taking, with the accompanying good-will, the difficulty of selecting appropriate mementoes, the attractiveness of a good portrait, and the pleasure it gives to friends at home and abroad, and a word or two about the latest styles you are introducing at the studio. Such a letter should have a postscript conveying the information that "all pictures taken before the 12th inst. will be delivered on or before the 21st inst.," or a similar notice.

If anyone thinks this suggestion worth a trial the letter should be put in hands *today*, and mailed with as little delay as possible.

A slightly different letter, which might be profitably used during the early part of this month, would be one addressed to all (or a selection from) the patrons of the past year or two, to secure duplicate orders from negatives already on hand, the pictures to be used as suggested in the letter just outlined. If time allows, this last letter should contain a proof of the negative referred to, preferably printed in a different style from that used for the original order.

Another plan to attract business, which simply requires the rejuvenation of the display frames and the reception-room, would be to announce by newspaper advertisement or more polite invitation a formal opening of the holiday season. On such an occasion the gallery should be thrown open to the public, having been made as attractive as possible with plants, pictures, and other furnishings. To every person attending the opening a little card of delicate tint might be given with profit. The card should bear an appropriate legend, such as:

"You can send to your friends no holiday gift more welcome than one of our dainty mezzo-portraits of yourself. Ask to see a specimen."

Or:

"What more desirable holiday gift can you send to your friends than one of our artistic platinotype portraits of yourself? They are beautiful and imperishable. Ask to see a specimen."

While it is true that the time to advertise is all the time, newspaper advertising just now will undoubtedly benefit the photographer in a substantial way. If you can offer a specialty for the holiday patrons, and so give point to your advertising, the results will probably be more profitable. The new Photo Vases, or the Photographic Calendar advertised, might thus be used as extra inducements to introduce a special grade of work at higher prices than those hitherto obtained.

The mention of these things brings up other specialties which may be advantageously used at this season. I refer to them at the risk of being suspected of "axe-grinding." They are the multiple pictures produced by the Klay holder; the combination print, giving several pictures of a child, or of a family upon a large print, the pictures being printed from old or new negatives with the Leigh combination printing-frame; or the Bas-relief portrait, which was unknown last Christmas, and is attracting so much attention just now.

It is a profitable time also for making known your facilities for the production of pastel portraits, sepia or black and white enlargements, watch-case pictures, and the like. In fact, enterprise suggests the prompt opening up of every channel whereby the pocket of the public may be reached "early and often" before the year and its account close.

Let me suggest, in conclusion, that diplomacy must go hand-in-hand with enterprise in the handling of the holiday business. The dear public, especially the photographer's public, is largely feminine, a fact which should always be kept in mind.

Sometimes the gentle wooing of persuasion will do what the "bargain sale" onslaught will fail to accomplish. As an example of this, I recall the experience of a friend who made a success of his last Christmas season by a careful distribution of the following announcement among the ladies of his neighborhood:

"Christmas and New Year,
1895–1896,
For your three particular friends."

"Mr. S—— is prepared to make to order, for delivery before Christmas day, three carbon portraits, in any desirable color and finish, for five dollars. Only a limited number of orders can be undertaken."

HOW TO STUDY PROCESS CHROMATICS.

BY C. ASHLEIGH SNOW.

(Continued from page 491.)

ADVANCED SERIES CONCLUDED.

A SAYING of the ancient sage Houssaye was: "God has diffused beauty, and art has combined it." While the three-color method has not favored us with many art combinations, it served a useful purpose in the start it has given us upon the way to better things. Already we have artists advertising "Sketches prepared in the new four-color method." Perhaps a year hence we shall see the same men announcing that they are prepared to execute commissions "in the new six-color method."

Considering the fact that for really high-class work the pictures are usually "inserts" printed upon a paper of superior quality to that used in the type portion of the magazines, and that such pictures are rapidly and easily handled in sheets, being cut up afterward, there seems to be no valid objection to more colors when a really good thing is called for.

In these color studies the systematic combinations and changes from the primary to and including the tertiary series, with the use of complementary colors, have been made. Foreground, foliage, and distance-colors have been considered in variety, with due regard for fitness and permanence.

Throughout the course the importance of broken colors, when artistic results have been sought, has been repeatedly urged, particularly the use of broken greens and blues for foliage and skies.

A series of grays of the highest artistic possibilities has been made known, and their use as complements to enhance the beauty of pictures in colors or monochrome has been taught.

Any learner who has followed the practical instructions given ought now to be able to avoid crude colors in his proving sheets.

Nearly all the blue skies will need a trace of umber or ivory-black, a bit of yellow, or some warm color mixed in them. How much warmth near the horizon and the color of mountain-bases will depend upon the character of the scene, whether Occidental or Oriental.

The last will need an all-over tone of orange quality, and this will bring the green, when present, upon the warm or citrine scale.

The photographer who travels, making three-color views, should carry with him a collection of pastels and a sketching tablet of rough paper. With partially closed eyes he gazes upon the scene, and rapidly lays in a memorandum of the tones of the masses only. The details are all secured by the lens. With extreme care he notes the values of the foreground, the distance, and sky masses, direction of light, etc. The paper, being in form of a tablet, is

easily sprayed with an atomizer carrying a shellac solution, and it is thus made permanent upon the spot. The memorandum has its title and number affixed to correspond with negatives, and goes with them to the process-atelier as a guide for the prover.

Should such a system be adopted, an immediate and gratifying improvement in pictures and orders for them would be apparent. As it is now, two or four concerns may take the same negatives and produce pictures of the same scene differing so widely in appearance that one might almost doubt them the work of the photographic lens. Why? Because the printers had not the slightest idea of the color-tones prevailing at the time of the exposure upon this particular view. If the plates were run in cheap black ink by a number of firms doubtless there would be some similarity. How useless to talk of color photography, when, given the same plates, results are produced differing as widely as are the poles asunder. Can such be regarded as truthful transcripts of nature?

It may be stated as a truth, however unwelcome, sooner or later the learned gentlemen who are now investigating the matter of color-printing will announce that two blues and a gray will be necessary for any picture coming even to approximate the art standard. For some pictures a buff will be needed, while for many two reds will be indispensable.

Even with these aids the process color-printer will be heavily handicapped to compete with really first-class color-work as produced to-day.

Lying upon my desk is a fine, artistic picture. Let us take the glass and note the analysis of the color scheme. The key is struck upon sheets as follows:

1. Pale yellow. 2. Deep yellow. 3. Dark red. 4. Dark green. 5. Light brown. 6. Dark brown. 7. Light green in mass. 8. Light pink for warmth. 9. Light cloudy gray. 10. Soft warm gray to pull the scheme together. 11. A warm background gray. 12. A green shadow color. 13. A green gray. 14. A delicate purple. 15. A pale buff.

Notice that four grays are employed. It is said that when the artist came to see this practical interpretation of his picture he could hardly distinguish the reproduction from his painting.

Now, unless the photographer who views the scene he is about to expose upon be enough of an artist to execute a proper color guide, with values and complementaries all recorded, how can a uniform result be secured under varying conditions from his plates? Any method to be useful and practical should be such that equally good results may be executed in Europe or in America from the same color blocks.

That this is far from the case at present the magazines of the last few months bear witness. It would be invidious to mention instances, because in the haphazard way of doing color-work such results must be expected.

Meantime let the work of experiment and research go on. The game is surely worth the candle, which could hardly be said of the half-tone method. One could not have better training than the attempt to reproduce the most picturesque view of the neighborhood in the colors it presents at different seasons of the year—early spring, midsummer, fall morning, an autumn afternoon, under the gray gloom of the threatening storm—a series of such pictures would become the most highly prized of one's possessions, and they would be valuable for reference at the work-bench.

> "Oh, thou sculptor, painter, poet,
> Take this lesson to thy heart,
> That is best which lieth nearest;
> Shape from that thy work of art."

Remember that repose from long level lines in a scene gives poetry. A snow-clad landscape, a sweetly tinted morn, the cloud

reflections in water, all minister to poetic feeling. Aim to exhibit nature exalted, noble, refined. Says Whistler: "In all that is dainty and lovable in nature the artist finds hints for his own combinations; there she is ever his resource."

CARBON PRINTING.[1]

BY ERNEST HECKROTH,
Philadelphia.

On looking at a good carbon print or transparency, we simply drink of its beauty as we would of nature itself, and the mind naturally turns to wondering why we do not see more results of this beautiful process, particularly when we read so much about its easy manipulation. A carbon print is absolutely permanent, and while it does not give all the colors of nature, it will give, in very many instances, the general appearance of nature. For instance, we have a pretty seascape, with here and there a white sail or perhaps a wreck in the foreground. A carbon print in sea-green would be almost the same as if it were made in natural colors. The same may be said of an equally pretty landscape if the proper green is selected. And that is not all, but the amount of detail shown is greater than that which is to be had by other printing methods. An article of clothing will look like clothing and show every fibre. Where there is any foliage or perhaps a greensward it will show every blade of grass, and where there is a stretch of water it will show every wave and every ripple from the very highlights to the deep shadows (providing, of course, that the negative has the necessary detail), all of which cannot always be said of other printing processes. If it has all of these virtues, the question comes, Why is it not practised more among professionals and amateurs alike? For my part I am afraid the professional man in business does not take it up because he cannot get the same quantity as with other processes. (With due respect to my own employer and perhaps a few others, who, I will admit, stick to it like the much-abused "poor relation.") And as for the amateur, I don't know what is the matter with him, but I judge it is partly because of the danger of bichromate-poisoning, and partly because he cannot see the image when printing, so as to know just how long to expose to the light.

But, strange to say, the same person who thinks this way will take his camera, first make an exterior view, and give an exposure of about half a second, and then make an interior view and give an exposure of twenty or thirty minutes. Can anything be more uncertain than the judging of these exposures? And yet he expects to, and in most cases will, get splendid results, and for no other reason than that he has made a few trials, and using a certain amount of judgment has now a little more confidence in his own ability. I claim that just as good results can and will be obtained in carbon printing if the same trial be given it, with the same amount of confidence and judgment, and a little dogged persistency be used. I know it is not as easy as some other methods; but, when once your efforts have been crowned with success, I am sure you will feel amply repaid for all the trouble you have gone through to get it. To the careful worker who will follow the directions given below I can assure success. I will not weary the reader with a description of all the many uses to which this

[1] Written for Photographic Mosaics, 1897, but received too late.

process can be put, or of the manufacture of tissue and supports, as they can be had from the stock-dealer at a reasonable figure and much better than one could make them. I will confine myself to ordinary prints and transparencies. It is well to know what carbon tissue is and how it is affected by light when it is sensitized, so that the experimenter may know the "nature of the beast" he is handling. Carbon tissue is nothing more than paper coated with gelatine to which has been added a quantity of coloring matter, and when the gelatine has been sensitized with bichromate of potash, if exposed to the light, it becomes insoluble wherever affected by light. When the sensitive tissue is exposed under the negative it becomes insoluble according to the different densities expressed in the gradation of the negative, viz., largely insoluble in the shadows and most soluble in the high-lights. This is the main part of the theory of printing with carbon tissue. Of course all the grades of light and shade will print and all the half-tones show just as clear as in the negative, in perfect harmony with the amount of light that has reached them. I will take it for granted that we already possess the necessary articles and chemicals which are needed and which will be spoken of in their respective places.

Sensitizing.

The sensitizing solution should be used at a temperature never above 58°. In summer ice may be used to effect this. The sensitizing solution is prepared as follows:

Bichromate of Potash. . .	3 ounces.
Ammonia	1 ounce.
Alcohol	2 ounces.
Water	100 "

In summer this may be made weaker (say 1 ounce of bichromate) according to the temperature. About 100 grains of salicylic acid may be added in summer to prevent reticulation. It must be remembered that the bichromate is very poisonous, and the hands should always be kept free from scratches. Rubber gloves should always be worn during the sensitizing. With these precautions one is perfectly safe from skin-poisoning.

Place the tissue in this solution face down for about one minute, brush lightly with a camel's hair brush, then turn face up for about another minute, also brushing the face. Care must be taken not to let the fingers touch the printing surface. There is no exact time for the tissue to remain in this bath, but on first being immersed it will curl up, printing surface in, and then gradually flatten out, and start to curl the other way. This is the time when it should be taken out and laid face down on a glass a little larger than the paper. (This glass must also be kept cold in summer by rubbing it over with a cake of ice.) The superfluous solution is squeegeed then from the back of the paper. You then take a bunch of soft paper and wipe the back of the paper, as any wet places on the back of the tissue would be liable to cause insoluble spots, and would be a drawback to what might otherwise be a first-class picture.

Drying the Tissue.

You then take a lath of wood, a little longer than the paper is wide, place it (the lath) across the edge of the tissue from which it is to hang, clip it by the two corners, and hang up to dry in a dark-room with a deep yellow light, as the paper will be about from three to five times as sensitive to light as albumen paper. The drying-room should be dry and free from dust or foul air of any kind, and with a free current of air. A little chloride of calcium or a piece of lime placed in the room in damp weather will be beneficial. It is claimed by many that the tissue is not sensitive while wet, but I would advise,

when it is possible, to sensitize in a dark-room. This may easily be done, as it is best to sensitize in the evening, which may be done by gas- or lamp-light; then by morning it will be ready for use. The paper should not dry too slow or too quick (six to nine hours is about the right time), nor should it hang too long after once it is dry, but be stored in air-tight tubes in which there is a little chloride of calcium.

It is a good plan to sensitize and develop in one room, and hang the paper to dry in another room. It is not desirable to have the paper too dry and horny, as in that state it becomes unmanageable, and is difficult to get a perfect contact when printing. If it has dried too hard it should be allowed to absorb a little moisture, by hanging in the dark-room with a pail of water beneath it. One will generally get perfect contact in the way I have described, but it sometimes happens, particularly with large work, that in some places the paper will not be in contact with the negative, even when under heavy pressure. This may be overcome by taking a glass a little larger than the tissue to be sensitized, perfectly clean, and rubbed over with French chalk, and placing the sensitized tissue, as it comes from the bath, face down on this glass. After squeegeeing and wiping the back, as before described, leave it to dry in contact with this glass. The tissue will detach itself when dry or may be removed by gently raising it from one end. The paper will then have a smooth and highly-polished surface, and will be as flat upon the negative as any other paper. The glossy surface will not remain through the developing.

A negative with a fair amount of contrast, one that will make a good strong albumen print, will be about right for carbon printing. The negative and tissue should be perfectly free from moisture, for if once they stick together, the negative will receive a bichromate stain and will be permanently ruined. The negative may be rubbed over with French chalk to insure safety. Before printing the negative must be provided with a "safe-edge," about one-eighth of an inch wide, which is simply done by painting the edge of the negative all around with some opaque color. Or, better still, paste a strip of opaque paper around the edges. This keeps the tissue soluble around the edge, helping one to draw the tissue from its support in developing. To obtain the print the tissue is placed in an ordinary printing-frame, with the gelatine surface to the negative.

The image cannot be seen during the printing, and the only means of telling how far to print is to use a "photometer," of which there are several kinds. One of these is a small tin box with two covers. The upper cover has a round opening cut in it, under which is a piece of glass, which is partly clear and partly a chocolate color, similar to the tint of albumen paper after having been in the sun for a few minutes. In the case is placed a strip of albumen paper, which is drawn over the lower cover of the box; the upper cover is now closed and the photometer is exposed to the light with the negative. When the paper is printed the color of the glass, it is called one tint. The strip of paper is then drawn through until the white paper again appears beneath the clear glass. It will then be ready for another tint. A negative may need one or more tints, according to its intensity. Sometimes a negative of medium density may require two or three tints. After a few trials one will be able to judge very closely the exact number of tints necessary.

Another photometer, and one which I recommend, not yet obtainable commercially, but which any cabinetmaker could make very cheaply, is a box about three and one-half inches long by one and one-half inches wide, and one and one-half inches deep, with a lid hinged on one of

the ends and a clasp or button on the other. About one-third of the length of the lid, nearest to the end not hinged, there is a small square opening cut, in which is placed a small negative, face down. On each end of the box there is a piece of round wood run directly through from side to side, like the keys of a violin or banjo. The keys on the inside have a slit cut into them through which is passed a strip of albumen paper running from one key over a strip or block of wood on the inside of the box (which will bring the paper in contact with the negative on the lid when the lid is closed) on to the other key. When one print is finished the key is turned until a fresh part of the paper appears under the negative and is ready for another print. This works very much like an ordinary roll-holder. The lid may be raised and the print watched from time to time. The keys should be turned so that the paper will move toward the hinged end; by so doing the first print will show while the second is printing, which is very good when there is any need of the last print being compared with the one printing. A thin negative is the best for use in this style of "meter," about one-third the density of the negative from which the carbon-print is to be made. A number of these "meters" may be had on hand for negatives of different density. In the absence of a photometer one may take a small negative and put it out to print in an ordinary printing-frame with the carbon, which will do just as well as a guide. It seems hardly necessary to remind one that the photometer must always go out in the same light with the negative.

Developing.

After printing, the print is developed, and as a print when developed is reversed (owing to the fact that the print must be developed from the back), it must be transferred a second time in order to be correct; but as there are instances when a reversed print is not objectionable, such as a vase of flowers or a piece of statuary, I give the single transfer method first. If a person makes a negative, intending to use it only for carbon prints, it should be made reversed, which will then give a correct print with a single transfer. If a film negative be printed from, you may print from the back, and have an unreversed or correct print with a single transfer. When this is done it should be printed in the direct rays of the sun, otherwise the print will not be quite as sharp as if printed from the face, unless the film be a very thin one.

After the tissue has been exposed the proper length of time under a negative, it is taken from the frame and placed in a tray of cool water, care being taken not to let the fingers touch the printing surface. On immersing it in the water, it will immediately curl inward; later it will flatten out and commence to curl the opposite way. The tissue should be brushed lightly on both sides so as to be sure to remove all the bubbles. Just before the tissue curls the second time it should be taken from the water and placed face down on a piece of single transfer paper, which had been previously soaked for some time in water, and placed face up on a piece of glass. A rubber cloth is now placed over them, and the squeegee is run firmly over so as to expel all the air between the tissue and the transfer paper. Place the tissue and transfer paper, now cemented together, between blotters under gentle pressure, and allow to remain for about fifteen minutes. Plenty of warm water should now be kept at hand, as it will be needed until the development is complete.

When the tissue and its support have been under pressure fifteen minutes, place them in a tray of warm water at 90° Fahr. Do not attempt at first to separate the

support from the tissue, but let it soak for a little while, gradually raising the temperature of the water to about 100°. Wait patiently until some coloring matter oozes from under the edges of the tissue; take the original support by one corner and gently but steadily separate it from the tissue, which will now be fast to the single transfer paper. The print before you is now seemingly a slimy mass of coloring matter. Care should now be taken that the print does not rise to the surface, for as soon as the air strikes it, or if a drop of cold water falls on the print while in this condition, blisters will appear.

Thus far the developing should have been conducted in a subdued light. The print is now left to soak in the warm water, and the soluble gelatine will gradually wash away. Development may be accelerated by taking a cup or tumbler and gently pouring warm water over the print. The hands should be kept out of the warm developing water, as it opens the pores of the skin, and more care should be taken here than in sensitizing. One can very handily wear a rubber glove on the left hand and keep the other out of the warm water almost entirely. It is not at all necessary that one must have the hands in the water and be continually toying with the print. The print may be left alone, and as long as there is any soluble gelatine left it will develop itself, providing the water is kept warm. The tumbler may be used now and then to clear away the gelatine, which will dissolve and rest on the top of the print.

Washing.

After the print has been sufficiently developed, it is washed in cool water for about one minute and then placed in a saturated solution of chrome alum, when the yellow stain of the bichromate will leave the print. This will take about five minutes if the alum is fresh. The print is now washed for about five minutes in clear cool water. Never use the alum dish for anything else, for if the least quantity enters the sensitizing solution it will cause the tissue to become insoluble; the same will be the case, but in a less degree, if any alum gets into the developing tray. Care should be taken not to let one print be over another, nor to touch the surface of the print, as even in the highest lights there still remains a thin film, and the slightest touch, be it ever so light, will show. If the print develops too slowly, it is in all probability overtimed, and the temperature of the water may be *gradually* raised and the print left to soak, even for hours if necessary. If this fails, a few drops of ammonia or a little very weak solution of chloride of lime may be added. If a particular part or a deep shadow needs reducing, it can be accomplished by taking a *very weak* solution of chloride of lime in a rubber ball and squirting on the particular part to be reduced. This should only be done as a last resort. If the development is too quick, and the print comes up too light, the temperature of the water should be lowered. After the print is fixed, hardened in the alum bath, and washed, it is hung up to dry, and only then can the surface be touched. It is now ready to be trimmed and mounted.

Double Transfer.

The double transfer process is exactly the same as the single transfer as far as printing and developing are concerned, excepting that the tissue, after being printed, is squeegeed to what is termed a temporary or flexible support, and should remain under pressure about twice as long as for the single transfer. The print, having been developed and washed, is then laid face up on a piece of glass. A piece of double transfer paper that had been soaking for some time in cool water is now taken, and,

after placing it in a tray containing *luke-warm* water just long enough to soften the gelatine-coating, it is laid down on the print. The rubber-cloth is then laid over them and the squeegee again applied. It must be understood that this water should not be hot, or the coating will dissolve and the print will not adhere to it. If this transfer is made directly after washing a soft squeegee should be used, and the squeegeeing should be very gentle. A better plan is to let the prints dry while on the temporary support before being transferred, and then rewetting and transferring in the same way, but using more pressure when squeegeeing. They are then hung up to dry, and when thoroughly dry may be pulled apart. The print will now be permanently fixed to the support and can be trimmed and mounted.

The temporary support can be used over again many times by rewaxing each time before using. Before use it should be soaked for a few hours at least, until the water will no longer run from the waxed surface. The waxing of temporary supports should be done by wetting a piece of flannel rag with the waxing solution and rubbing on the support, and then polishing with a dry piece of flannel, being careful always to rub in a circular motion, and never in straight lines from one side to the other. Waxing solution may be made up as follows:

Spirits of Turpentine	6 ounces.
Rectified Benzole	2 "
Pure Yellow Beeswax	1 drachm.
Rosin	1 "

In the absence of temporary support, a piece of single transfer-paper may be waxed and used. This should only be done in cases of emergency and not for the sake of economy.

TRANSPARENCIES.

The printing of transparencies in carbon is exactly the same as described for prints, with the exception that the exposure should be about three times as long, and that they are squeegeed to a glass coated with a gelatine emulsion. The formulæ for this are given:

A.

Gelatine	2 ounces.
Water	10 "

B.

Chrome Alum	50 grains.
Water	10 ounces.

Enough acetic acid to restore fluidity.

The gelatine must first be soaked in water until thoroughly swelled; pour off the water and add the 10 ounces of water. The cup or tin dish with the gelatine solution is now placed in another dish of water and placed on a stove and gradually heated until the gelatine is dissolved. Then take the solution of chrome alum, which should have been closely filtered, and pour in a very thin stream the warm gelatine solution, stirring the gelatine vigorously all the while, and having the acetic acid ever ready to add (also in a thin stream) whenever the gelatine shows signs of becoming thick or ropy. Only enough acetic acid should be used to restore fluidity. About an ounce will generally be sufficient; but, as it cannot be said positively, it must be left to the discretion of the worker. While this is still warm it should be filtered through muslin or loose filtering-cotton, after which it is ready for use. Glass plates can be either coated with this emulsion by flowing or with a soft brush, and left to dry in a room free from dust. A number of glasses may be coated at once, even though they are not to be used immediately, as the emulsion will remain good indefinitely. The remaining solution of gelatine will form jelly when cold, but may be re-heated as above described, and used whenever desirable.

The tissue having been exposed sufficiently is placed in a tray of cool water and brushed as described for prints. The glass coated with the above emulsion and left to dry is also placed in this cool water

and lightly brushed. When the tissue lies flat (*just before* curling outward) it is brought into contact, *under water*, with the glass, the printing surface of the tissue being next to the coated side of the glass. They are then drawn from the water together and placed on a smooth board. The rubber cloth is again brought into use, and the squeegee is run over them, first lightly, and then gradually increasing the pressure, always squeegeeing from the centre to the edge. Too much care cannot be taken in regard to not letting the tissue curl back, for, if this is permitted, the tissue will refuse your most persistent efforts to keep the edges in contact with the glass. Having obtained perfect contact they are placed between blotters and under pressure for about one hour, and then proceed to develop the same as for prints.

A negative for transparencies should have a little more contrast than one that will make a good print, unless special transparency tissue is used. This is the same as the other, with the exception that it has a greater amount of coloring matter and is more expensive. After developing, the transparency is placed in the alum bath to harden, and finally washed in cold water for about five minutes, and placed on a rack to dry. When dry, you can, if desirable, take a penknife and cut around the edge of the film and scrape away the emulsion, which will leave the edges clear glass. Great care must be taken, however, not to get the blade of the penknife under the print, for if this is once given a start it will always go further. The transparency may be varnished with any good varnish.

Remarks. Either bichromate of potassium or bichromate of ammonium, or both, may be used for sensitizing carbon tissue; but as one has no advantage over the other, and as the latter is the most expensive, it is not generally used.

There is hardly any danger from poisoning if the hands are kept free from scratches and rubber gloves be worn during sensitizing, and at least one glove worn during developing.

By keeping the sensitizing solution of one strength, and *knowing* the strength (not guessing), one can get accustomed to judging how long to expose a negative with the photometer, and generally get good results.

By starting the developing with moderately warm water you have the advantage that, if the print is just right or a little light, you have enough control over it to check it when wanted, with cold water; if too dark, you can always add more hot water. When it is not *very* much overprinted you can generally save it by letting it soak a long time until light enough. It will be seen then that there is great latitude in printing.

Never pour hot water directly on a print. If the temperature of the water is to be raised, do it gradually. A good plan is to have a table with a square opening cut in it; over this you place the tin dish under which a gas or oil stove is placed. In this way the temperature of the water may be raised at will.

Always handle the tissue with the greatest care even before sensitizing. Never handle it violently or cause it to break or crack on the surface, as this will cause trouble afterward.

If bubbles appear during developing, stick a hole in them with a pin, and do nothing more until the print is dry, when they may be scraped with a sharp knife and spotted with a fine brush.

In sensitizing a very large piece of tissue, if no dish is at hand large enough to hold it while flat, it may be rolled up and placed in the dish with the sensitizing solution. Unroll from one end up the other, and when rolled up go back again, repeating this until the tissue is limp. In this way I have sensitized a piece of tissue 18 x 50 inches in a 16 x 20 tray. This

method is particularly advantageous when the tissue is bought in rolls or bands, and is with difficulty made to lie flat.

If in developing a transparency it is found to be too light, do not throw it away, but develop until very light, and when dry back up with a piece of porcelain or white cardboard. You will thus secure something well worth your trouble, as porcelain prints made in this way are very beautiful.

After the tissue is exposed under a negative the action of the light will continue to a certain extent, even if the exposed print is placed in the dark, but will be discontinued as soon as wet. If the exposure is known to be full, the tissue should be cemented to the support as soon as possible after printing.

During the summer ice must be used in the sensitizing. The glass upon which the tissue is squeegeed after sensitizing must be made cold with ice. The cooler the water is in which the tissue is placed after printing and before developing, the better.

Another "Remark." To save the time and trouble of putting a safe edge on each negative, one may take a number of pieces of glass the same size as the negative to be printed from, and paste the safe edge on the concave side of them, and place in the frame with the negative. These glasses may be kept for future use.

In conclusion, after you have in your trials of the carbon process met with a few exasperating defeats, and at last succeeded in getting a good print or transparency (particularly the latter), you will agree that is well worth all the time and trouble spent for this purpose. There are of course many little things which might be added, but which limited space will not permit. I wish success to those who attempt and persevere in the manipulation of this beautiful process.

[Translated for WILSON'S PHOTOGRAPHIC MAGAZINE.]

A SUBSTITUTE FOR COLLODION.

BY R. ED. LIESEGANG.

CROSS and Bevan, who have given an account of their researches after a substitute for collodion, have recently published further investigations on the subject. They have prepared a cellulose product soluble in chloroform. Cellulose is dissolved in ammonia oxide of copper and hydrate cellulose precipitated therefrom. This is mixed with a solution of acetate of zinc, and the heat is raised to 110° C. to completely expel the water. At a lower temperature it is treated with acetylchloride, either alone or after solution in different solvents, as, for instance, chloroform. The solution of this cellulose tetracetas in chloroform gives, on evaporation, a shining transparent film, which can be employed in place of collodion, proving its superiority over the latter in not being explosive.

Instead of the zinc acetate, according to another formula of Cross and Bevan, crystallized acetate of magnesium is employed in the same manner.

Michaelis has made use of a gaseous methyl-ether in methyl-alcohol as a solvent for pyroxylin. The methyl-ether is obtained by the distillation of a mixture of equal parts of methyl-alcohol and sulphuric acid at a moderate temperature. After purification in caustic potash and over chloride of calcium, it is absorbed by methyl-alcohol. Gun-cotton is easily dissolved in it; but the film does not set

as quickly as that prepared with ordinary ether-alcohol, as is also the case with the solution in acetate of amyl.

This new preparation has been employed in the manufacture of celloidin paper. Hitherto in the preparation of celluloid gun-cotton was mixed with camphor. Shupphaus has an English patent in which, in place of camphor, aromatic amine, alkyl derivatives and their subtsitution products are employed.—*Photo. Archiv.*

PRACTICAL FORMULÆ.

A Developer for Under-exposed Plates.—The following formula could be advantageously used for plates that have been considerably exposed. It consists of a judicious mixture of metol and glycin. Glycin alone works very slowly, but with complete freedom from fog. With metol alone, on the other hand, there is more rapidity, but also a tendency to fog. The formula here given produces rich detail on the shadows, with clear, unclogged high lights:

Metol	30 grains.
Glycin	30 "
Sulphite of Soda Solution at 30° hydrometer test	10 ounces.
Carbonate of Potash Solution at 16° hydrometer test	10 "

To give a Matt Surface to glossy aristo- and collodion prints, Dr. Stiefel recommends, in *Rundschau:*

Sandarac	6 grains.
Mastic	40 "
Ether	12 drachms.
Benzole	2 to 3 "

The grain of the surface increases in coarseness as the amount of benzole is increased.

Graining a Film for Retouching. Here is a novel way to give the film of a landscape negative a finely grained matt-surface on which any amount of pencil retouching may be put if desired. Let the negative dry after fixing and washing, then immerse it in a weak solution of alum, 5 to 10 grains to the ounce of water, for five minutes. On removing the plate mop the surplus solution away with a soft cambric cloth, and allow it to stand until the film has become even and glossy. Finally, dip it for a few minutes in a 10 per cent. solution of ammonia; wash and dry.

An Emergency Developer. For plates very much over-exposed the following developer can be relied upon to give satisfactory results: Take 2 ounces of a 10 per cent. solution of sulphite of soda, add 24 grains of dry hydroquinone, stir until all is dissolved, then add 12 grains potassium carbonate. No bromide is required, and the mixture may be used repeatedly.

PIZZIGHELLI recommends the following developer for bromide prints. It consists of a mixture of metol and glycin; the former gives acceleration, the latter pure blacks:

A.

Metol	8 parts.
Sulphite of Soda	80 "
Carbonate of Soda	60 "
Water	192 "

B.

Hot Water	192 parts.
Sulphite of Soda	80 "
Glycin	8 "
Carbonate of Soda	50 "

For use equal parts of A and B are employed. If more contrast is desired increase the quantity of B. If more softness more of A is employed.

If rapid development with blue-black tone is desired, reduce the quantity of water in making up the solutions A and B. A trial will determine the proper quantity.

From a painting by J. Jacquet.

WILSON'S PHOTOGRAPHIC MAGAZINE

A CRITICISM.

George B. Sperry, Toledo.

MY DEAR JACK: You remind me in your last letter that in his address at the Celoron Convention, our good friend, Mr. George B. Sperry, said "our most helpful teachers should be the illustrations in our photographic journals; but, alas! they are not always helpers. . . . Are we getting our dues when they give us false ideas?" Then (to the editors): "When you publish a picture which contains a gross violation of art principles without calling attention to the fact, you are defrauding your subscribers." You follow by asking me if I "will not take this matter to heart and try to be more critical?"

So you join Mr. Sperry in his strictures, do you? Well, now, my son—excuse me, my young friend—if you will turn to page 339 of our August MAGAZINE you will see in *The Ground-Glass* this answer to Mr. Sperry, as follows: "Nearly or quite all of the pictures which appear in our MAGAZINE are sent as 'complimentary,' so that it would be extremely discourteous to point out their shortcomings publicly. Would Mr. Sperry stand that? If so, we wish he would give us a chance at some of his own excellent pictures."

Since that time I have received a generous number of Mr. Sperry's pictures, which he permits me to use, as you and he and many others have suggested—*i. e.*, for criticism. So I am about to try to make you happy.

In *Mosaics*, 1897, p. 161, a very excellent contribution by Mr. Sperry will be found, entitled "The Stores of Art and How to Share Them." It is illustrated by one of his latest productions. It is reproduced on page 549 of this number of the MAGAZINE, in order that it may serve you and all interested in measuring pictures more exactly and thoroughly than the space I have for this letter will permit. In his paper Mr. Sperry uses such terms as "interpretation," "conception," "tone," "breadth," "masses," "values," "harmony," "feeling," and other stock words employed in the vocabulary of the art critic. There are reasons why it is impossible to apply all of these to the pictures in hand: first, the originals are so much reduced by the half-tone engraving process that but little opportunity is left to study the "tones" or "values;" second, the photographic technique of a photograph cannot be demonstrated by an engraving. As to "breadth," "masses," "conception," "interpretation," and "feeling," you have been trained well, and your *Burnet* and other books are at your elbow always, I know. It seems to

me, then, that at present we may give the most time to "individuality" as we find it displayed by Mr. Sperry's pictures in hand.

Purposely, in some cases I have selected more than one picture of the same person. There are three of the lady in white dress. The originals are severally cabinet, Paris panel, and 8 x 10 inches in size. We need not go further than this to observe one of the worst faults of their maker. It is part of his individuality however (or what was so when these were made)—it is the stiffness or preciseness or want of invention in the attitudes—whichever you choose to term it. The body of the lady is posed for "stock," if I may use the term. Then, to make variety, now her shoulders, now her arms, now her head, are changed, as the painter moves the members of his wooden manikin. In each case the background is the same.

In Mr. Sperry's Celoron address you say, truly, that he charged us to remember that "it is a fundamental rule of all systems of physical culture that the right arm and the right leg and the left arm and the left leg must act in unison. In no other way can grace, strength, or stability be expressed." You will see *how* Mr. Sperry has regarded this in his pictures of the lady in white (and in others). The right foot is forward; the right hand is posed in "unison," but is so far forward that it must be supported by that awkward line-maker, an umbrella, reminding one of an over-laden apple-tree propped up by a fence-rail. In two of the pictures of this lady the "unison" of the left foot and left hand are secured by drawing the hand back to the waist and causing what the dear dead Sarony termed "the teapot-handle" pose, the "spout" being the other hand and arm. In one of our trio of this lady the "unison" of the left foot (down) and the left hand are brought about by dropping the hand to the side. Thus better exterior lines are formed and more grace given—but then there are the "spout" and the fence-rail remaining.

Even if the subject is posed in walking costume I would (particularly while bulge-sleeves are among us) leave out the umbrella and dispose the right hand in some other way. Mr. Sperry has had this plan in mind, we can readily see by referring to two pictures of another lady; but he has not posed the hands happily. The young lady evidently did not like the umbrella, for she appeared in a different costume the second time (they often do this when they have more than one suit). In the lighter costume she escapes the "spout," but she has two akimbo "teapot-handles." Why not put some flowers in one hand, following the foot, and place the other hand and arm across the waist? Or let both hold the flowers and ignore "unison" with the feet. Yes, Jack, I know you "have often heard operators say that if a hand or a foot annoys you, leave it out;" but such "operators" do not think very deeply. The best way to take advantage of difficulties is to overcome them and force good out of them.

Now that I have presented some acrobatics in criticism for you I will confess to you (privately) that these pictures are from a collection of Mr. Sperry's older productions. They were taken from what had for some time been exhibited in his studio. If you will turn to his lovely "Absorbed" (in the *Mosaics* article), you will find an example of his recent production which will excite your admiration. It is from an 18 x 22 plate, and is a fine picture.

Now turn to the other pictures herewith. Graceful lines are found in the "Lady Reading;" there is thoughtful posing and "opposition" of the hands and "unison" of the hands and the feet; also excellent management and massing of the light, and lovely harmony throughout. "The Mother and Child" is a picture full of naturalness and grace, in line,

in light, and altogether pleasing. There is none of the manikin in these. "The Lady Smiling" presents thoughtful care as to the "unison" of the hands and feet; it would be fairly classed as natural and graceful as well as presenting "good lines," except on the left side; here the continuance of the line started by the sleeve, down the skirt, is clumsy and ugly. "The Young Miss" presents a fine example of unpretentiousness, and is a good model in lighting both face and figure.

George B. Sperry, Toledo.

STUDIES.

Putting "beauty" aside, I consider the masterpiece of the selection to be "The Old Smoker." From the hair on his nose to the smoke beautifying the atmosphere as it rises from his pipe, the composition is a good one. There is "business" in that stout hand which somewhat nervously grasps the pipe, although there is a falling off in the naturalness of the mouth; but the eye explains both the nervousness and the falling off—the man is trying to keep still. It is natural, I say; it is good; although I see careless technique in the original.

You are tired, eh! Well, I suppose I have taxed your mentality, Jack; "but you began it." Let us close, then, with thanks to generous Mr. Sperry for his willingness to accept martyrdom (as every member of the Ohio State Society knows he is doing all the time for the sake of doing good to his fellow craft), with one unending (so it should be, at least) thought, as follows:

Let us look upon Seriousness, taking into consideration the definitions of Truth and Beauty, as a great *desideratum*. Be in earnest. Nature, human or otherwise, is a many-sided mirror which, if we only appreciate her, can tell us many things we do not know. In the woods and fields, and in every person presented to our camera, she has reflection for every heart, a mood for every humor. He who can translate the language of these moods is a great artist, even though he may choose to introduce some ideas of his own. I beg you to go on with the study of pictures. It is an unending labor and an unending pleasure.

Very truly yours,

EDWARD L. WILSON.

George B. Sperry, Toledo.

THE STORES OF ART AND HOW TO SHARE THEM.[1]

BY GEORGE B. SPERRY.

IN discussing the merits of a photographic portrait of the present day we no longer speak of the "lighting," the "posing," the "chemical effect," etc. This savors too much of the manner in which we speak of the excellence of our footwear or the fineness of our gloves. We are no longer manufacturing photographs. We are producing portraits, for which we claim pictorial values; so we say the "tone" is excellent, the "breadth" is magnificent, the "masses" are well preserved. We speak of its "values," its "harmony," etc.,

[1] Reprinted from "Mosaics," 1897.

George B. Sperry, Toledo.

ABSORBED.

to the extent of our artistic vocabulary. We are making great strides these days. Are we getting beyond our depth? There can be no question as to the value of a high standard and the need of more general intelligence. If we are not making the necessary progress it is not so much from lack of information as from the improper use of what we have. Imitating the peculiar methods of others will not make us artistic. A man is not necessarily a musician from being able to strike in their proper places all the notes of a classical composition. The interpretation is the personal equation that solves the problem. To be able to analyze a picture from technical rules indicates a probability of being able to judge its merits. To feel that a picture is artistic is to know it. The feeling, however, is largely a matter of education. As we proceed the horizon expands. New vistas are opened up. Our senses become more acute. We find that what we thought was meant to please the eye can minister to all the emotions. It is the best expression of all that is human and an inspiration for what is divine. To get the full benefit of what art has in store for us we must thoroughly understand the necessity of preserving our individuality. We may admire the ideals of others and attempt to follow them, but the interpretation must come through our own feelings. The personal equation must be self-evident. I have in mind two of our most noted workers whose results while totally dissimilar, are both fine examples of artistic portraiture. We might, if we chose, call these two schools of photographic art. The one, from its finished refinement, we might liken to the French school of painting; the other, from its force and character, we might liken to the Dutch school of painting.

There seems to be a mistaken notion in the minds of some that a photograph in order to be artistic must receive the light

at an angle that is never deviated from, must possess a certain amount of skin texture and must be posed in imitation of a sixteenth-century family portrait. "A little learning is a dangerous thing." Art above all else should be truthful. To light the subject in an unnatural way or to pose the subject in a grotesque attitude is to make not a portrait, but a caricature. It has been aptly said that the rules of composition will not tell one how to do things right, but will prevent one from doing them wrong. In other words, they are not formulæ for the construction of pictures, but necessary helps, as indispensable to the artist as are the rules of syntax to the literary man. A knowledge of these latter rules will make a writer of one with about the same facility that a knowledge of the rules of composition will make of one an artist. It is the thought, the conception, and most especially in the case of the artist, the *feeling*. This emphasizes the fact that individuality must be cultivated. The impulse must come from self. Pictures cannot be made by rules. These are the sentinels that tell us, not what to do, but what not to do. There is an unfortunate tendency to extol pictures that have artistic merit irrespective of the technical qualities. Our progress to be lasting must be thorough. We should first be skilful workmen. Art should never be an excuse for slovenly workmanship. It is held by some that art for the photographer and art for the painter are of necessity so different that they can never meet on common ground. We cannot discuss the point in this short paper, but we must remember that art primarily can be but one thing, and that its expression will always depend upon its environment. Though hampered in this respect, the photographer can find ways and means to express what he feels and knows.

EXAMPLES OF COMMERCIAL PHOTOGRAPHY.

If it were possible to compute the volume of business done yearly in and around New York by the handful of photographers who have abandoned general or studio photography for special lines of photographic work, the figures would astonish those whose work-a-day horizon is confined by portraiture and its possibilities as a means of livelihood.

Specialists, however, are apt to be more than usually enterprising and, therefore, busy men, and as a class they are not communicative as to their working methods, hence one hears little of them, although their work is in evidence at every turn.

The men referred to are those who make photographs for the papers and magazines, for theatrical and general advertising purposes, for architects, builders, contractors of public works, railroad companies, and the like. One photographer of this class is occupied all the year round with the photographing of silver and glassware for a large firm manufacturing these goods, another makes a specialty of yachts and shipping, half a dozen are engaged with the exteriors and interiors of residences and large business buildings, others with "at home" pictures, construction work of all kinds, and similar branches of work for which the average studio photographer possesses neither the facilities nor the necessary equipment.

Naturally the work falling to these specialists presents peculiar difficulties and often taxes their ingenuity and tools in ways of which the skylight man has neither knowledge nor experience. For this reason their work is generally full of interest and sometimes unique in character. The working conditions are always changing, the hours of work are irregular, and the circumstances rarely normal. As a general thing the sizes worked are large and

the remuneration secured for the work done sometimes reaches quite a large figure.

The writer recalls an instance where one of these photographers secured fifteen hundred dollars for a series of exteriors and interiors of a gentleman's residence. The work occupied over three weeks and included the photographing of a large salon furnished in ebony and gold, with draperies

C. C. Langill. New York.

A FIFTH AVENUE INTERIOR.

of bottle green. The room was illuminated solely by one large window glazed with cathedral green and yellow glass. The photographs measured 16 by 20 inches. and were as fine examples of technical photography as the most fastidious taste could desire.

In another instance the photographer obtained twenty-five dollars for a whole plate view of the building in which the office of this MAGAZINE is located. His patrons desired a view which could not possibly be obtained on one plate by any means known to science or art, but the thing had to be done, and was done, by combining the essential parts of five photographs from as many different elevations and points of view. The result was a very attractive and impressive view of the building, untruthful in many things, but cleverly calculated to deceive even the elect.

Among the New York photographers engaged in commercial photography one of the most capable and best known is Mr. C. C. Langill, of 10 East Fourteenth Street. Two examples of his work illustrate this article. Mr. Langill has devoted ten years of hard labor to his specialty and has received the highest award for its excellence at the national conventions.

His stock albums form a finely illustrated record of the vast architectural changes which have taken place in the metropolis during the past decade. To a large extent he selects his subjects, undertaking work of the highest grade and producing to order only.

The engraving of the Gregg building, which appears as a special inset in this number of the MAGAZINE, possesses several points of interest not observable at a first glance. It is, we believe, the largest direct instantaneous street view yet made, the plate measuring 20 by 36 inches. The corner of Fourteenth Street and Fifth Avenue shown is one of the busiest corners in the city. The Gregg building is of dark-red brick. The difficulties in the way of making such a view in the early afternoon, when the local traffic is at its height, must be experienced to be appreciated. In the original print, however, every detail is given, without blur or lack of sharpness, from the centre to the edge of the picture. The color values of the building and of the carpets and furnishings shown on the sidewalk are excellently rendered. The features of the people grouped in front of the building are as easily recognizable as if photographed under the skylight.

The plate used was a Carbutt orthochromatic made to order for this work. The exposure was one-fiftieth of a second, made with a Thornton-Pickard shutter, and the lens used was a Goerz double anastigmat, No. 10, Series IV., supplied by C. P. Goerz, 52 Union Square, N. Y. We venture to say that these well-known specialties were never put to a severer test or acquitted themselves so brilliantly. The camera box was specially made by the Flammang Camera Company of our city, and the plate-holder is equipped with the curtain-slide introduced by Mr. Flammang in his large cameras.

The interior view presented is offered simply as an excellent example of this class of work, and will repay the study of the earnest worker. It is soft and harmonious in illumination, artistically pleasing in the selection of point of view and general arrangement; the masses of light and dark are well disposed to produce the best effect, and its technical quality is admirable.

A WEST VIRGINIA STUDIO AND ITS OPERATOR, OTTO DOEHN.

ONE of the sincerest pleasures which fall to the lot of the editor of a technical magazine who has been many years at his post comes from watching the course of those who are growing up in his art to continue the work he is trying to uphold and elevate. Another pleasure comes from aiding, advising, and abetting the younger workers. Personally, if we may write so, we have a great many of these in mind whose career and growth we have watched, with earnest interest, from the time they entered into the studio of their father or of some other veteran subscriber of our MAGAZINE, to the present. Among these we have to mention now Mr. Otto Doehn, operator at Kirk's new ground-floor studio at Wheeling, W. Va. We believe that some notes concerning this gentleman and his work will interest many of our readers, and may encourage others to emulate a good example.

First, then, let us visit the studio where Mr. Doehn is engaged, and, in imagination, look about. As we enter we receive, with other guests, a neatly printed card, which gives some useful hints. These, which we quote, are as follows:

"POINTS ABOUT PHOTOGRAPHS.

"Promptness is of the greatest importance to enable the artist to do justice to his patrons.

"If your complexion is very light you should wear lighter colored clothing, and *vice versa*.

"All colors pertaining to blue, purple,

Kirk's Studio. Wheeling, W. Va.

PORTRAITS BY OTTO DOEHN.

"Make your appointment, and select style and size of picture, get your ideas about toilet, etc.

lavender, plum, magenta, and pink photograph very light.

"Claret, garnet, green, light bismarck,

ART-ROOM—APPROACH TO THE GALLERY.

and stone color all take still darker, and are excellent colors to photograph. Wine-color, metternich-green, orange, golden-brown, dark bismarck, and snuff brown take very dark. Silks and satins take lighter than woollen goods or goods without lustre.

"Gentlemen should never oil or wet the hair, and should have good-fitting costumes; and ladies should always have the hair loose, dry, and full, and arranged to suit style of face.

"Always feel well and pleasant and take plenty of time ('photographers are not machines, but artists') for sittings, and you are sure to get a good picture.

"The hair low upon the forehead makes a broad face look broader; so arrange it high for a broad face and low for a long face."

As we enter the establishment we behold at once that it is well accoutred in every respect, and that all classes of first-rate modern photography are supplied.

Attached is a store for the sale of all sorts of artists' materials, bric-a-brac, frames, etc., together with photographic supplies; but with these Mr. Doehn has not to do.

Passing then through to the reception-room, we meet the subject of our sketch, and are charmed with the work upon the walls. At once there is observed an individuality about Mr. Doehn's work—a bold, broad system of lighting which is very effective. He is particularly successful with children evidently.

As to the career, photographically, of Mr. Doehn, it is not a long one, this being his tenth year of service in photography. He was born in Cleveland, June 5, 1868, and at the age of eighteen years began photography in the establishment of Mr. J. F. Ryder. The first few months were spent in the printing department; there he learned the art of manipulating albumen paper. Then he was promoted to the operating-room, and under the Ryder skylight he spent seven years. An offer to go to South America then enticed our young artist, and he accepted a position as operator in Montevideo. In 1895 he returned to "God's country," and was married to

RECEPTION-ROOM.

Miss Carrie Henrietta Haker, March 10, 1896, in Cleveland.

Mr. Doehn's first engagement after his return to the United States was at the Kirk studio, where he yet presides at the camera. Annexed are four examples of his work, chosen from a series recently received from him. One portrait is of himself, the next is of Mrs. Doehn, and the other two are of patrons of his studio. These, especially the first two, well show the broad method of lighting which seems to attract so much praise at the present time.

ART-ROOM—INTERIOR.

In *Mosaics* (1897) Mr. Doehn shows talent as a story writer. There he details a humorous account of a visit of Li Hung Chang to his apartments, and therein he gives many valuable hints to the workers in the skylight. It should be read by everyone interested in the proper accoutrement of a studio, because it describes those of Kirk's studio in detail, with very useful hints as to their use. Although a burlesque, the article is full of earnest, useful suggestions.

OPERATING-ROOM.

VIGNETTING IN THE CAMERA.

SINCE the vignette portrait was introduced, of which, strangely enough, the various histories of photography say little or nothing, it has always been a favorite with the public. The reason for this is not far to seek. The bust portrait is unquestionably that best adapted for the majority of the photographer's subjects, offers least objection in the changing of fashions in clothing, and generally gives the most satisfactory results, alike to the photographer, his patrons, and their friends. And the vignette takes away all that might offend in the bust portrait, and adds grace and effectiveness to the *ensemble*.

For some time after their introduction vignettes enabled the photographer to secure a higher price for his work on the ground that the vignetting of the pictures required extra time and care. Gradually, however, the levelling influences of time and rate-cutting put the vignette on a level with plain work as far as the price

was concerned. In the meantime the inventors devised many sorts of appliances to aid the photographer to make his vignetted prints as simply and as expeditiously as possible. But as long as the vignette had to be obtained in printing, the negative itself presenting all the details of the half-figure, it was found that uniformity in vignetting was a difficult thing to secure. The operator under the skylight saw certain effects in the mental vignette which he formed of his sitter, but which did not always appear in the finished vignette as made by the printer.

This, with other defects incidental to vignetting in the printing frame, led several bright minds to devise ways and means of obtaining the vignette effect simultaneously with the portrait and in the camera.

The latest instrument of the kind is the Eddowes camera negative vignetter, a specialty just placed on the market by Mr. G. Gennert, of our city. This vignetter, as shown in the accompanying cut, has many points in its favor, and should prove not only a means whereby uniform vignettes may be obtained in the camera with ease, but a time- and labor-saver also. It fits all cameras and any size lens; can be raised or lowered as desired, and brought nearer to the lens or removed from it at will. It is attached solely to the camera, which may therefore be moved freely to any portion of the stand without hindrance. And, finally, it is manipulated from the rear of the camera while the operator views the changing effects on his ground-glass.

THE EDDOWES CAMERA NEGATIVE VIGNETTER.

With a vignetter of this kind the operator is himself the judge of the effect which is most desirable for his sitter. As he makes his negative, so all the finished vignettes will appear. All the fuss and time formerly expended with cotton and special devices in printing are done away with, and any shade of vignettes, from white to black, is obtained at will. We venture to say that henceforward no studio will be considered as fully equipped which does not possess a camera negative vignetter.

METHOD IN PRINTING.[1]

BY J. STEINFURTH,
Philadelphia.

WE hear much talk about the new printing-out papers and their certified superiority over the old albumen prints. Some photographers are so enthusiastic over their claimed merits that they have even altered the conditions of the skylights and methods of lighting their sitters so as to secure the right kind of negatives to get the best effects. One professional informed me some time ago that he had his lights made of ground-glass, and had bought a new outfit of light-tinted accessories and backgrounds so as to make things as soft as possible. He seemed to think that the

[1] Contributed to Photographic Mosaics, 1897, but received too late.

aristo- and gelatino-papers would revolutionize the whole method of printing. He is not so decided just now in its praise, and I notice his orders for albumen paper are beginning again. I candidly admit that some very beautiful results have been produced by the use of the new papers, and that some negatives have yielded better results with them than they have with albumen. But I believe the reason is in the want of skill in the manipulation of the albumen paper, for I believe that albumen is capable of producing as beautiful and brilliant and far more lasting pictures.

There seems to be a growing demand for quick-printing papers. Photography does everything so quickly that we are apt to become impatient with the tedious process to get prints; and, of course, our old friend albumen gets a good share of blame for his slowness. First silvering, and drying, and fuming, before we can use it, and then slowness, even in the sun. But "with all its faults I love it still," and my object in writing this paper is not to defend it for its tardiness, but to show that the printer's haste to get off a large batch of prints frequently prevents him from getting the best results out of the negatives intrusted to his care.

The professional printer does not always do justice to the amateur's negatives, but sometimes takes a sort of malicious revenge and sacrifices the precious results of the expectant amateur on the altar of professional opposition.

My experience has been that in the great majority of cases the best negatives are not of a character demanding printing right out in the blazing sun. On the contrary, I have found, and I think that nearly every good printer has found also, that what the professional calls "rather weak" negatives yield the most pleasing and delicate prints if properly treated.

Very often the amateur is a man or a woman of artistic taste, who cares more for final result, the good print, than the ambition to have made a plucky negative, and I do not wonder that he feels disappointed when he is handed a very mean flat-looking picture, as the best under the circumstances, and I think he is justified in telling the printer that something better ought to have been made out of it.

Is it any wonder he tries to do his own printing, and rejoices over the ready prepared paper which the stock houses furnish with the easy directions for getting the grandest results without any experience whatever? It is thus that the professional brings discredit on his profession and injures his own business. The introduction of these new papers does truly lessen the necessity of skill in the printer. But my experience is that the fine half-tones of the fresh print fade in a comparatively short time, the photograph looks miserable, and the reputation of the photographer is at stake.

I think photographers will go back to albumen unless some other kind of paper possessing its virtues and at the same time the keeping qualities of aristo and gelatine papers shall take its place.

Meanwhile let us not discard albumen, but treat it in the proper way, and we shall obtain as good results as the ready-made paper, and, besides, the permanency, which is very desirable to our patrons.

I saw recently some of the prints made in Mr. Wilson's establishment during the Centennial, 1876, and, though they are almost as old as myself, they are still beautiful and bright, with little or no indications of fading.

With the aristo papers we must take the paper for better or worse. It is not in our power to adapt it to the peculiarities of the negative, nor, as with albumen, can we regulate the character of our bath on which we float the paper, or the time of floating, or by fuming the paper longer, etc.

We were just speaking of what are called

thin negatives. These negatives when looked through show fine gradations of light and shade. The high-lights are soft and the shadows clear; but they do not look brilliant because the contrast is not striking, as in a stronger negative.

Now these negatives, if printed out in the sun, print, of course, very rapidly, and are a delight to the workman who is desirous of getting off a goodly display of work for his employer's inspection—but the prints are miserable things, and do no justice to the negative. Even with aristo papers, though better in appearance, they are not what they ought to be.

Though they lack intensity in the lights and shades they are really brilliant because the gradations are so numerous that the contrast between the highest light and lowest shadow is gradually produced and the beauty really increased thereby, and it is a shame to destroy the effect by improper printing.

What shall we do with them? Simply print them slowly under tissues or ground-glass, or out of the direct sun's rays, and you will receive your reward and make the amateur happy.

I think I am correct in saying that the printing department should have the same amount of attention as the skylight or the dark-room if we have any respect for good work.

Why is it that the best results in printing are obtained during the late spring months and in the summer or early fall, and not such good results during the winter and early spring? I will tell you. Our employers are careful to heat up the skylight for the comfort of their patrons, and, at the demands of the more favored operator, even the developer in his dark-room gets proper warming, because the chemicals do not like to be chilled; but the printer up in his tower must face the rude winds and frosts of winter, frequently with open sashes.

An enclosed printing-room will be found to pay better (in the long run) in the results than one opened to the bleak winter winds. Besides the protection it affords from the glare of light, it allows the printer, who is quite as susceptible to the cold as the operator, to give more attention to his work instead of spending the time in blowing his nails and rubbing his benumbed hands after handling the cold brass springs of the frames. I think less silver is required by the printer in warm quarters, and considerably less gold in toning, with less waste, more good-humor, and much more respect for his employer.

GLEANINGS FROM MOSAICS, 1897.

Photographing Children. In the beginning I only made photographs; now, I believe, I have gained the privilege of calling some of my works *pictures*. As to my camera and the mechanism of it, we two have become so accustomed to each other that the work is easier. When a baby presents itself with its "maw" and sundry other relations and admirers, in spite of almost everything—call it mechanics, if you will—the camera and I usually succeed.—*J. A. Brush.*

Conventions and Literature. How can we induce more of our fellow-workers to attend the conventions, exhibit and compare their work, and subscribe for good literature? By our conventions we may not only elevate ourselves, but by them we may hope to elevate our art to the high plane it so justly deserves. By the support of our best magazines we enable their editors to cater for our information of the best kind; without their work (which is a trade) we cannot grow. We all know the

value of agencies of help in any enterprise, and in our business are glad to avail ourselves of their aid. And yet, in conference with fellow-photographers, I find many of them read nothing pertaining to their art. I have noticed, too, that the photographer who shuffles among the alcoves at an exhibition, with a far-away look and a depressed countenance, is the one who can "see no good in the journals," and who never can summon up manliness sufficient to exhibit his work where he can honestly compare it with the work of others.—*F. B. McCrary.*

Re-sittings. Try to look at the pictures you make for your patrons from a patron's standpoint, and not so much from the standpoint of the photographer, and you will have fewer re-sittings, and the same will not annoy you so much when you do have them.—*T. Zweifel.*

Outdoor Portraiture. One of the principal requirements is a nice, soft light, as this brings out the features much better than one that is too strong. If, therefore, the work is undertaken in the middle of the day care should be taken to have the subject under the shade of a tree or on the shady side of a building. I prefer, however, to take such pictures either early in the morning or toward evening, and, if a day can be chosen when the clouds are light and just sufficient to partially obscure the sun, much better effects can be obtained. —*H. W. Hales.*

Still-life Pictures. The professional photographer will find in still-life photography a fascinating amusement for idle hours and a blessed means of relaxation from the humdrum of business life. Even his Satanic majesty would weary of the daily task of copying the countenances of humanity and of uttering the polite platitudes that go with every dozen of cabinets. Still-life photography, moreover, enables the professional to furnish his show-window with something that will surely interest the public. Portraits interspersed with photographs of flowers will attract more people than portraits would alone. Anything new catches them every time. The public loves novelty.—*Dr. Hugo Erichsen.*

Competing in the Higher Classes at the Conventions. From the moment you make up your mind to compete in such classes, make up your mind also that your pictures must be better than those made previous to that time, no matter how good your work may appear to you. Follow this train of thought, and you will derive unquestionable benefit therefrom. Pictures made for such purposes and under such conditions will always prove a source of revenue to you in your studio, and will aid you greatly in keeping in advance of your competitors. Thus you will gain a deserved prestige among the people of your city or town.—*J. Ed. Rösch.*

Courage in Art Practice. One of the chief elements of success to be cultivated by the young art student is courage. "Nothing ventured, nothing gained," comes sawing in right here with great effect. To begin with, read; read and study your *Burnet's Essays* and your *Quarter Century*, and so on, and fill your mind with instruction and rules, and then go to your skylight and set to work. It is a test of courage and patience as well when, after you "put your best work" in a picture, you find that some trifling oversight has spoiled everything. Nevertheless no effort in the art direction is ever a total loss. It is never all learned, so there is always room for practice.—*J. George Nussbaumer.*

Half-lights and Half-shadows. There is no quality of more importance in a finished work of art than that of securing a just

amount of half-light and half-shadow. Half-lights and half-shadows are the great softeners and harmonizers. They unite and sweeten the contrasts and asperities of the strong lights and deep shadows, and give that tone and finish to artistic productions which, when perfectly accomplished, surely fascinate the beholder.—*Xanthus Smith.*

Personality in Portraiture. Shakespeare says that "All the world's a stage, and all the men and women in it players, each in his time playing many parts." This is good philosophy for the photographer. He must be able not only to play his own part well, and to adapt his playing to the circumstances of the part; but it is essential that he should always be able to read the *rôle* of his sitter, so that the character, the actual entity, rather than the mere outward form which clothes that entity, may be recorded for posterity.—*C. O. Towles.*

Harmonizing Contrasts. First, we must remember as one of the cardinal principles of portraiture that the head must receive the principal light; therefore we direct the focus of our light to the head, illuminating it so as to secure roundness, modelling, and brilliancy. If this is done properly it will be seen that only small portions of the collar and shirt-front receive the same strength of illumination as the head. This is as it should be. Sometimes the effect can be obtained by the use of a small, opaque screen, held by the hand at such a point as to throw the bust into semi-shadow, and at the same time we gain all the detail and modelling presented in the masses of white linen.—*D. H. Anderson.*

Studying the Work of the Leaders. The advantages of studying the actual work of those who are acknowledged to be masters in the profession, in preference to reading accounts of their methods of working, are self-evident. It is the most direct and profitable way of learning what the masters can teach us; and an actual example of work tells us very much more than any description. It is a wider, broader, and deeper exposition of their practice, and we can assimilate its teaching with the abundance of suggestions which spring from the constant reiteration of the lesson as we examine the work again and again at our leisure. Point after point develops itself at each scrutiny; things not fully understood at first glance become apparent, the whys and wherefores are finally answered, the applications of the principles involved are made plainly manifest.—*Thomas Aquinas.*

Notes on Eikonogen. You cannot make a solution of eikonogen, 12 grains to the ounce of water, hold more than twice its weight of powdered sulphite of soda without precipitation on cooling.—*Dr. J. J. Higgins.*

Duplicate Negatives. Place the negative you wish to copy or duplicate in a printing frame as you would for printing; go into your dark-room and put a sensitive dry-plate (rapidity, Carbutt's Eclipse) upon it as if you were going to make a transparency. Now expose it to *subdued daylight* from three to ten minutes (according to density of negative). After exposure take it back to the dark-room, develop, and fix it as you would any plate which has been exposed in a camera. The result will be that you get a negative as good as the original, only reversed, but by going through the same process with the reversed negative you will then have another negative like the original. The developer I find best is:

Water	30 ounces.
Metol	75 grains.
Sulphite of Soda, cryst. .	1 ounce.
Carbonate of Potash . .	½ "
Bromide of Potassium .	10 grains.

—*Ernest Brown.*

C. C. Langill. *New York.*

CORNER OF FIFTH AVENUE AND FOURTEENTH STREET,
NEW YORK CITY.

A reduced fac-simile of the largest direct instantaneous photograph on record.

NEW CONDITIONS—MORE INCOME FOR PHOTOGRAPHERS.

DURING the coming year one of the purposes of the editor of this MAGAZINE will be to agitate the subject of better protection for the rights of the photographers. While we have all been keeping time with the rapid advances made in our art, so rapidly have we advanced that only few have halted long enough to consider whether we are advancing—whether as steadily for our own good as for the good of the public. We are all for the protection of our interests, surely, but have been allowing a great avenue to open through which much that should come to the photographer's coffer is allowed to escape.

Frequently we have urged the subject of copyrighting their works upon photographers, and have urged membership in the Photographers' Copyright League, but not many, comparatively, have followed the counsel given. We propose now to start the urging again, and to keep it up for a time. We have been awakened afresh in this matter by the contribution to *Photographic Mosaics*, 1897, by Mr. B. J. Falk, New York, of "A Suggestion," urging photographers to act conjointly in the matter of adopting resolutions and binding themselves, not to supply their pictures for reproduction unless they are remunerated as authors, painters, illustrators, and others are paid. Our co-workers abroad are already well organized in this matter. Let us be about our business too.

Mr. Falk's "Suggestion" is reproduced below. We would be glad to hear from others:

"Until recently the great masterpieces of celebrated painters have been principally popularized by means of photographic prints copied from them and spread in all countries. These prints, while lacking much of the force and beauty of the originals, owing to the absence of color, still convey the artist's ideas most truthfully and better than could be done by any other method. To-day photography itself is served in a similar manner by the half-tone process, inasmuch as its most valuable creations are now disseminated a thousand times more quickly by the printing-press than is possible by means of the printing-frame. Our illustrated papers and magazines fairly teem with reproductions of photographic studies taken from life, the results obtained being often but slightly inferior to the original photographs.

"Now, while this development of recent days is a very good thing, indeed, for the journals and magazines above referred to, and while it also benefits the public to have good, artistic originals thus indefinitely multiplied, and, owing to their cheapness, brought within the reach of all, yet, from the standpoint of economics, it must be admitted that it has materially affected the business of the very photographers whose work is thus used. A large proportion of the former purchasers of their prints, including collectors, advertisers, and copyists of all sorts, now procure cheap and very good reproductions where formerly they bought the original photographs; and it may be put down as a fact for both this country and Europe that the photographer's sale or income from this branch of the business is at present no more than about one-tenth what it was a few years ago.

"It is only necessary to point out this unprofitable element to photographers in the new condition of things to indicate its lack of equity, its gratuitous accumulation of benefits for those who use printing-ink as against the great loss it entails on the dry-plate worker, to show its one-sided character; and it would seem, therefore, but

common prudence, if we wish to swim abreast of the times and keep up our heads, that we so change our present methods as to adapt them to the conditions that now prevail.

"In England, photographers have already done much to protect their interests in this regard by conjointly adopting resolutions and binding themselves not to supply any newspaper or periodical with any of their pictures for reproduction unless they receive adequate pay for the same. In this way an income is provided for them, which, partially, at least, reimburses them for the losses they sustain owing to the decrease in the sales to the public of their own prints because of these reproductions. Here in America no such concerted action has yet been taken, and until it is it seems to me that much of the photographer's best labor will continue, as in the recent past, to benefit other publishers, without any compensation to himself. Considering that all reputable journals pay for their news and literary type-matter liberally, and that whenever they use illustrations these form the most valuable part of their contents, it seems strange that the large body of photographers have thus far been satisfied to lose the legitimate income awaiting them in this field, and to secure which they have only to combine. The matter once fully understood, common sense, fairness, and public spirit ought to do the rest."

DIRECT TRICHROMATIC HALF-TONE NEGATIVES.

THAT there is much greater interest being taken at the present time in three-color work is evident, and the fact that, commercially, the half-tone process is practically the only one used naturally suggests the question as to whether such half-tone negatives cannot be prepared direct in the camera, and thus one operation, if not considerable time, be saved.

Wet collodion probably still holds its own for half-tone negative-making, although it is being somewhat hardly pushed by the photo-mechanical dry-plates, and for three-color printing, it is absolutely essential, if the former be used, that the plates should be rendered color sensitive. There is no difficulty in this if certain requirements are fulfilled, and which entail not only considerable care, but also special preparation of the collodion and bath.

Probably every commercial collodion is intended for use with bromo-iodide salts, and it is a fact, well established by the researches of Vogel, Eder, and Schumann, that the iodides do not take kindly to color sensitizing; therefore it is necessary, even if one purchases the collodion, to replace the iodizer by a bromizing solution. On the other hand, if the bath or collodion is quite free from iodide, the sensitiveness of the plates is so low as to necessitate an increase of exposure, without any screen, of at least three times that of a normal bromo-iodide wet-plate.

Probably the best-known orthochromatic wet process is that suggested by Vogel in 1884, and which has remained almost unaltered to the present time—unaltered and unamended because, in many cases, it has been replaced by the orthochromatic collodion emulsion and gelatine plates.

The raw collodion is best prepared from celloidin, because one can rely upon obtaining it always of constant composition, and free from any traces of acids, which would seriously interfere, if not totally destroy, the action of the dye. A 2½ per cent. collodion solution is to be preferred, though, for those who prefer a thin, flowing collodion, this may be reduced to 2 per cent., but it will be found, when the bromizer is added, that the more viscous collodion is not too thick.

The bromizer is made by dissolving 200

grains of cadmium bromide in 5 ounces of absolute alcohol, and filtering.

One part of this bromizer is mixed with three parts of a 2½ per cent. collodion. If only a 2 per cent. collodion be used, then the cadmium bromide must be reduced to 160 grains for the 5 ounces.

The silver bath is not quite of the usual formula, and, in fact, it must at once be recognized that a fresh silver bath must be made up and reserved for these color-sensitive plates alone; the ordinary silver bath, whether new or old, is practically useless, and, further than that, if it is used, cannot be again used for ordinary work.

The best silver bath for this work is:

Silver Nitrate	480 grains.
Distilled Water . . .	10 ounces.
Solution of Potassium Iodide (one per cent.) . . .	14 "
Glacial Acetic Acid. . .	*quant. suff.*
Absolute Alcohol . . .	½ ounce.

So far, there is no particular difficulty; but we now have the question of color-sensitizing to consider. We are dealing with a silver haloid, which is sensitive mainly to the dark-blue about G, whereas we require a sensitiveness extending entirely through the spectrum. In its unorthochromatized condition, this collodion will give us very well the negative from which we shall prepare our yellow-printing plate, and, if a screen of methyl-violet is used, it will be quite satisfactory, with one exception, to which we shall again refer. The violet screen may be prepared by making first a 1 : 300 solution of methyl-violet, and adding from 40 to 50 minims of this to every ounce of plain enamel collodion.

To sensitize the plate for green and yellow, eosine (yellowish) is the most satisfactory; and the solution is prepared as follows: 4 grains of pure yellowish eosine should be added to 3 ounces of absolute alcohol, well shaken, and allowed to stand at least three days, with constant shaking, and should then be carefully filtered. To sensitize the collodion, 5 per cent. of this dye solution should be added to the bromized collodion.

For use with this collodion a green screen is made, either by adding 80 minims of a 1 : 200 alcoholic solution of malachite green to every ounce of enamel collodion, or, preferably, by using half this quantity of naphthol green and naphthol yellow alcoholic solution.

The third negative, which will give us our printing plate in blue, is the most troublesome to make, for it is difficult to satisfactorily sensitize the collodion for red. Cyanine is the most satisfactory, in that clearer prints are obtained, though it is doubtful whether cerulean S could not be used with better effects, the only point being that acids set free sulphurous acid from this compound, which might naturally act prejudicially not only on the silver bath, but also on the clearness of the resulting negative.

Cyanine may be used in exactly the same way as eosine, and, in fact, equal quantities of the two dye solutions should be mixed and added to the collodion in the proportion of 5 per cent. of each.

With this collodion an orange-red screen should be used, which may be prepared by using about 40 minims of 1 : 500 solution of aurantia, and 40 minims of 1 : 500 solution of chrysoidine extra to the ounce of enamel collodion.

The formulæ given for these screens are but approximate, and they must really be adjusted by means of a spectroscope.

To sensitize plates coated with the above collodion, the necessary length of stay in the silver bath is nearly twice as long as for an ordinary bromo-iodized plate.

There are one or two points which require a little explanation. The first is, as to the use of acetic instead of nitric acid in the silver bath. Nitric acid immediately decomposes eosine and cyanine, and not only is considerable color sensitiveness lost, but the plates are foggy.

The second point is as to the preparation of the yellow-plate negative. Theoretically, the red and blue, assuming that we are photographing the spectrum, should be equally opaque, and the yellow only bare glass; but practically the red end may be ignored, as any failure here is compensated for by the one of a carmine ink.

That three-color negatives can be made direct in the camera by the wet-plate process is proved; but is the game worth the candle? If we take as unity for exposure that required to make a good half-tone negative on ordinary wet collodion from a print, or, better still, a transparency made by contact printing from one of the three negatives made on gelatine plates in the ordinary way, we shall find that we have first an increase of exposure of three times in consequence of the slowness of the color-sensitized collodion, and then an increase of about three times again for the violet screen, an increase of about thirty for the green, and one hundred and eighty for the orange screen; and we are compelled to arrive at the conclusion that direct three-color half-tone negatives on wet collodion are not practicable so far as time-saving goes, and, unless we are using extremely powerful arc lamps for illuminating our subjects, the exposures will be so unduly prolonged as to introduce the trouble of the plates partly drying.

Then, again, if the half-tone negatives are made direct, we certainly lose one very valuable aid to successful reproduction; for, if we use dry-plates in the first instance, and from these negatives make transparencies, either by contact or in the camera, we may alter considerably the tonality of the results by making these transparencies harder or softer. Unless absolutely correct negatives can be guaranteed the first time, it will be more satisfactory to make our three latter direct in the camera, whether on dry-plates or wet collodion.—*British Journal of Photography.*

OUR PICTURES.

THE "Velox" study this time was printed from a negative generously loaned by Mr. James F. Ryder, Cleveland, Ohio, and is a charming example in composition. All who work under the skylight know the difficulties of posing a mother and two children together. In this case these have been overcome without any strain after effect. All is natural, and graceful, and beautiful. The negative and subject both are well adapted to matt surface paper printing, and "Velox" has fulfilled every expectation concerning it. The method of printing is given on another page.

The wonderful accomplishments of lenses in these days seem to go beyond every expectation. Our office building had a narrow escape from being carried away a few days ago by Mr. C. C. Langill, while testing his new Goerz lens. How near he came to us may be seen by reference to his view of "5th Avenue and 14th Street," which, reduced, serves as one of our current inserts. Particulars concerning it may be found elsewhere also.

For the portrait photographer we present a photogravure reproduction from one of the famous paintings of J. Jacquet. It is a fine specimen of light and shade, and is offered with the hope that it may be well scanned with half-closed eyes by the disciples of the "wild lighting" of photographs all too prevalent.

In lighting a picture it should not be overlooked that in order to secure the best art it is necessary that the one direction from which the light comes should be maintained throughout. All "spottiness"

should be avoided. Here is a model worth studying and approaching.

Mr. E. Edwards, of the Photogravure and Color Co., New York, has given his personal attention to the production of this fine specimen. He says "if photographers would use such models for study they would do a great deal better work." It will start good thinking for the new year.

The original painting is of the collection of Theodore N. Vail, Esq., of Boston.

The other reproductions which grace our pages make up a gallery of gems which ought to start a new year (if not a new race) full of hope.

PHOTOGRAPHIC MOSAICS, 1897.

WITH more than ordinary pleasure we announce that *Mosaics*, 1897, the thirty-third volume of our year-book, is ready for those who desire it. More than this—over one-third of the immense edition has already gone out to satisfy the orders received before publication.

Mosaics, 1897, is a better book than any of its long list of predecessors, and we think this betterment reflects the growth and healthy progress of the fraternity we have served so long.

Mosaics, 1897, is a better book, because its pages show that more earnestness, more thinking, and more capable working methods than ever before dominated the minds and practice of those who have contributed to its make-up. It is a book made for helpfulness, for the guidance of all who are striving for higher standards in the profession, and for the strengthening of better ideals than have hitherto prevailed in the craft. Hence we offer the book to our co-workers with confidence, believing that it will prove itself valuable to the worker, whether he be beginner or expert.

In the various sections which divide *Mosaics*, 1897, into three portions the photographer may find whatever is to his taste. There does not seem to have been anything forgotten: art instruction for those who need it; practical processes, formulæ, and technical instruction for those so inclined; a complete retrospect of the progress of the year, with every desirable detail; and profitable as well as beautiful pictures for those to whom the pictorial lessons most appeal.

As in past years, so in *Mosaics*, 1897, we offer a photographic year-book distinctly American in character. From beginning to end the book has been almost wholly written by American photographers. The information and the suggestions presented are based upon conditions and experiences met with in American practice. The pictures are the best produced in American studios and were mostly exhibited at our own conventions. This is a point worth remembering.

Another feature of *Mosaics* is its compactness and convenient size. "It fits the pocket." It is not a cumbersome mass of advertising matter. As in life, so in book-making and selling—the biggest outdoor parade often results in the poorest circus inside the barn. The practical worker who seeks instruction concisely put, stripped of unnecessary verbiage, will be happy with *Mosaics*, 1897, in hand.

To many the most attractive portion of the book will be Section III. Here are gathered thirty-four papers upon as many different topics, written by well-known photographers and finely illustrated with examples of their work. Thus the veteran, James F. Ryder, offers a pictorial allegory in "Easter Flowers," with some good advice to the beginner in artistic photography. Mr. George B. Sperry's paper on

"The Stores of Art and How to Share Them" is also given in this issue of the MAGAZINE, and speaks for itself. "The Mechanics of Art" is a suggestive paper on photographing children, by J. A. Brush, of Minneapolis, and is beautifully illustrated with an engraving from one of his latest pictures. Mr. C. W. Motes contributes one of his "Georgia Beauties," and tells how he gets the charming effects so much admired in his work.

Those who are specially interested in the style of portraiture which has become identified with the name of Mr. W. M. Hollinger will find useful hints in the article on "Breadth and Sharpness," which Mr. W. M. Starks has so well illustrated, on page 177 of *Mosaics*. Mr. Otto Doehn's "A Visit from Li Hung Chang" is a humorous reminiscence of the Chinese envoy's visit to a West Virginia studio, without foundation in fact. It is nevertheless instructively illustrated. Two attractive pictures of Southern belles appropriately embellish a talk upon "The Value and Necessity of Conventions," by Mr. F. B. McCrary. This is a paper which every photographer should read. "The Veteran," by Gustine L. Hurd, is a capital example of posing and lighting which gives point to Mr. Hurd's paper on "The Intensification of Negatives." Mr. T. Zweifel and J. George Nussbaumer, two of the younger men who are rapidly coming to the front, contribute good thoughts and two exquisite specimens of portraiture. They are favored with subjects possessing more than ordinary attractiveness.

Among the more thoughtful papers may be mentioned Mr. J. Ed. Rösch's "Plea for More Competition in the Higher Classes at Our National Conventions," illustrated with his admirable composition, "The Reprimand." "Half-lights and Half-shadows," by Xanthus Smith, and "The Location of Objects in Landscapes," by Walter B. Swift, present helpful instruction in outdoor work. Both papers are illustrated. "Modelling a Background" and "How I Made the Background Large Enough" are two papers which will be found valuable under the skylight. W. G. C. Kimball gives a profitable suggestion relating to lighting the subject. It is illustrated with a reproduction from one of his most recent landscapes.

"Duplicate Negatives," "Harmonizing Contrasts in Portraiture," "About Studying the Works of Others," "How to Make the Picture Tell the Story," "Practical Advice for Process-workers," "A Collodio-bromide Process," and "Notes on Eikonogen" are some of the other useful papers in this section, each being fittingly illustrated.

In the second section the atmosphere is that of the work-room and business department of photography. Mr. Benj. J. Falk leads with a paper on "A Neglected Source of Revenue;" Dr. John Nicol brings up three little but important details often overlooked in every-day practice; G. G. Mitchell takes up the hand camera and offers useful hints on its selection and use; Mr. W. H. Sherman completes the valuable communication he made a year or two ago on "The Value of Carbolic Acid as a Preventive of Blisters in the Printing-room." A very interesting paper is that contributed by the noted experimentalist, Victor Schumann, on "Photographing by Undiminished Sunlight." "The Preservation of Developing Solutions" is the topic dealt with by Dr. Leo Baekeland. It will help in the dark-room. Dr. J. M. Eder sends from his Austrian School of Photography the formulæ for a sure working orthochromatic emulsion, which, with Mr. W. Bell's practical paper on "Iodide of Silver Collodion," will be valuable to photo-mechanical workers. "Business Methods" is the title of Mr. Bachrach's article, and he handles his subject very ably. The other papers of this section

by C. A. Snow, Charles Gravier, E. Long, A. L. Bowersox, and some others are all worthy of careful reading.

Of Section I., the "Review of the Progress of Photography During 1896," little need be said. In its 106 pages the photographer will find, condensed, "boiled down," and rewritten, each in its own department, the processes, formulæ, methods, and experiences of the year. No other American year-book gives this most valuable aid to its readers. It is indispensable to those who would be well informed of the trend of things photographic, and is a storehouse of useful hints for reference in difficulties, as well as a never-failing source of inspiration.

This notice of *Mosaics*, 1897, is necessarily incomplete. We have, however, attempted to give our readers an idea of the usefulness of the book, and, in part, of its contents. Of the quality of its information, Mr. Sperry's article on another page of this issue is an indication. We advise everyone to secure a copy for himself as early as possible. The price, as always, is 50 cents for the paper-covered edition. Library edition, $1.00. No extra charge for postage. For those who desire to preserve the book the library edition, strongly bound in cloth, is the best and cheapest. When you renew your subscription for 1897 be sure to order *Photographic Mosaics*.

THE MICHIGAN PHOTOGRAPHERS' ASSOCIATION.

THE photographers of Michigan are hard at work to make a success of the State convention, which is to be held at Detroit, February 2 and 3, 1897. A further attempt has been made to have the convention held at Jackson, but the claims of Detroit have been sustained, and the exhibition, with the meetings, will be held at the Art Museum in that city.

At the executive meeting held in Detroit a few days ago the committee decided to take the radical step of inviting the cooperation of amateurs in the exhibition. It is rather difficult to see what advantage can accrue from the mingling of amateur and professional workers at a gathering primarily organized for the benefit of photographers as men of business. At any rate, special competitive classes have been arranged for amateur photographers, devoted to landscape, marine, instantaneous, cloud, and composition photography. In all these classes prizes are offered.

The professional competitive classes and awards offered were announced on page 427 of our September issue. Among the prizes of general interest, open to photographers of any State or country, are two gold medals. One of these will be awarded to the most artistic novelty in photography exhibited, and the other to the best picture shown at the convention, irrespective of size or subject. These awards should draw good work, and doubtless will; but it would seem desirable that some restriction should have been attached to give the smaller workers a reasonable chance in competition with those who possess every facility and faculty for the production of the best work.

One of the features of the convention will be a discussion on negative-making and the ills of printing, which will be engaged in by three representatives of leading dry-plate-makers and three representatives of paper manufacturers. This should prove to be a profitable affair.

It is expected that from one to two hundred Michigan photographers, as well as many from other States, will attend the convention, and the present indications point to the gathering, as well as the exhibition held with it, being one of the most successful conventions held by any State Association.

Full particulars concerning the conditions governing the competitive classes, etc., can be obtained ftom the Secretary of the Association, Mr. J. E. Watson, 148 Woodward Avenue, Detroit, Mich. We advise every Michigan photographer not already interested to speedily get in touch with his State Association, and prepare to reap the benefits which follow co-operation with his fellow-workers in every effort to forward the common interests of the profession.

PRINTING ON "VELOX" PAPER.

OUR efforts to add to the pictorial value of our MAGAZINE have lately led us to considerable experimenting in the matter of printing.

In our last number we published some of our first results on glossy "Velox" paper. This month we present another picture made on the same brand of paper, but with matt surface.

In the beginning of this experimenting we were obliged to overcome an old-time prejudice (it may be) against printing by development. We held to the opinion that direct prints could not be equalled by development, and that prints made by the last method were weak, gray, unstable, and undesirable. We now know—we have seen—that developed prints on "Velox" paper may be thoroughly permanent and class with those made on bromide and platinum papers. This is due to the fact that the image consists of precipitated metallic silver formed during the process of development, exactly as it is formed in developing a dry plate or bromide print. In this condition silver is much less susceptible to the action of chemical agents than when in the state of albumenoid or other organic compound. It is for this reason that prints made on albumen or printing-out papers require gilding, *i. e.*, toning in a gold bath in order to render them stable.

The test may be easily made. It may be that some of the pictures in our last number, owing to our crude facilities at that time for washing them, may turn color. We believe they will not; but if they do we will replace them, and thank any of our readers who watch their behavior to kindly send particulars. We all have much to find out in the use of "Velox" paper, and can help one another.

When once well under way the "Velox" method is charming, easy, uniform, and certain in results. Compare it with the annoyances of the old direct printing upon albumen paper. Note the "Velox" tactics:

Place paper!
Expose seconds!
Remove paper!
Develop quickly!
Fix fully!
Wash plenty!

In an hour you may have a squad of prints which will honor the printer in any situation. Can any process be simpler, easier? It is a great pleasure to see the bright proofs from fine negatives come out into one's hands with such delightful certainty and uniformity. As we go on with its use we shall make trial of all the possibilities of "Velox," and from time to time report them for the help of our fellow-workers. So far we have confined ourselves to the production of prints with black tones. The short time we have had to produce a sufficient number of prints for our edition has prevented extended trials. We shall therefore confine this paper to giving directions for producing the tones exhibited by the prints for this special use.

The Nepera Chemical Company manufactures now two grades: 1. Carbon Velox paper, matt surface for black tones; 2.

Glossy Velox paper, enamelled surface, for black and purple tones. You have now seen a print upon each grade.

Directions for use. Open the package of paper by gas-light or by very subdued day-light. An average negative requires an exposure of from one to eight seconds to diffused day-light a few feet away from a northern window. One may employ the electric arc-light. It requires about the same exposure. Welsbach gas-light needs several seconds more than arc-light; an ordinary gas-jet at three or four inches distance from a negative will yield a print in one or two minutes. The density of the negative, of course, regulates the time. Use a strip of the paper to ascertain the proper length of exposure before proceeding with the regular printing. After exposure, develop with either of the following developers, watching the development at a few feet distance from a gas- or lamp-light.

We recommend especially for Velox paper the

Amidol Developer.

Water	50 ounces.
Sulphite of Sodium (crystallized) 10 ounces; if granulated	5 "

When everything is dissolved add one ounce of amidol when the developer is ready. Keep the stock solution in well stoppered bottles filled entirely. For use dilute 1 ounce with 6 to 10 ounces of water. If necessary, in order to prevent foggy whites, add a few drops of a 10 per cent. solution of bromide of potassium. For strong prints make your developer stronger. For soft effects use it more diluted. Too weak a developer or too much bromide will give greenish-blacks. Those who prefer it will find it easy to use the

Iron Oxalate Developer.

No. 1.

Neutral Oxalate of Potash .	16 ounces.
Hot Water	48 "

No. 2.

Proto-sulphate of Iron . .	8 ounces.
Hot Water	24 "
Citric Acid	15 grains.

We employ a "swab" (several thicknesses of soft canton-flannel folded and fastened over the edge of a strip of wood), placing the print upon a sheet of glass inclined in the dish of developer. Thus the fingers are kept from the solution almost wholly. The other way is to throw the exposed prints into the developer, immerse completely and evenly, and keep them moving.

We are using Hyatt's California washer, and like it well. Our notes concerning it will appear in our next issue.

We are discovering helpful modifications as we go on, and from time to time will make known all that is of advantage to our fellow-workers.

EXAMINATION OF CATHODE AND RÖNTGEN X-RAYS THROUGH COLORED SCREENS WITH THE FLUOROSCOPE.

BY JOHN CARBUTT.

1. THE cathode rays in an excited Crookes tube, viewed through a pale-yellow screen, show an increased brightness of the yellow rays.

2. Viewed through a dark-violet screen, the cathode rays present a phosphorescent glow, similar to that in a low volt lamp when held in the field of an induction-coil.

3. Viewed through a green screen, the cathode rays present to the eye a light emerald-green.

4. Viewed through a dark-red screen, the cathode rays present a pale-red on the carmine tint.

The screens are of thin, polished plate-glass, 1½ mm. thick, coated with gelatine,

colored with aniline dyes, such as I use in making my photochromic screens.

Examination of Röntgen rays through plain glass and the afore-mentioned screens shows that both cut off or absorb fully 50 per cent. of the Röntgen rays from reaching the screen of the fluoroscope. Screens of the following colors were placed side by side with the clear glass—viz.: dark-violet, green, light-yellow, and dark-red, and when in juxtaposition it was impossible to recognize which was clear glass and which was colored, and the eye was unable to detect any color-sensation when looking through the fluoroscope with the colored screens in close contact.

These experiments confirm me in the opinion I have held from my first dealing with the Röntgen X rays—*i. e.*, that they are of the ultra, ultra violet, because I find they absorb the entire spectrum, while a deep-violet screen absorbs all but the red.

It was early determined by Prof. Röntgen that the X-rays could neither be deflected nor refracted, and I am not aware of any experiments having been made to determine the absorptive powers by the X-rays of the colors of the spectrum.

PYRO.

BY FRANKLIN A. NIMS.

I HAVE often been asked what developer I use. My answer has invariably been "pyro." I have tried nearly all kinds with many brands of plates since the advent of the gelatine plate, and my preference in every instance has been pyro. Any effect can be secured by proper handling, soft delicate shadows and crispy high-lights. I am speaking now more particularly of landscapes, as it is ten years since I have made any portraits; nevertheless, it will apply equally as well under the sky-light.

When about to develop a batch of plates I have ready a dish of an 80-grain carbonate of soda solution, some old developer (that is, some not "old enough to vote" or cause stains). If none is at hand, I expose and develop a plate or two in order to secure the requisite ripened developer, preferring it to a bromide restrainer. No matter how expert an operator may be, he is always sure to make some errors in his exposures if he has many plates, hence I prepare for all emergencies.

If the image appears too quickly I immediately change to the old developer (if in doubt, I start with the old), or if not quick enough, change to the soda solution. I also have ready some plain pyro, and add it or plain soda to the developer, as the case in hand may require it. Thus, I maintain that pyro is the easiest and best all-around developer to manipulate. True, it stains the fingers some; but what matters that, if you obtain satisfactory results.

Not long ago I had occasion to go up in the mountains to photograph a mining camp. The order was for 5 x 8 views. Among the views wanted were interiors of the power-house. I had only ordinary rapid plates with me; however, I made two exposures, one from each end of the room. The room was dimly lighted from small, narrow windows, and I was obliged to point the lens directly at them, giving long exposures—twenty and twenty-five minutes respectively. Owing to the position and amount of machinery, I was unable to use flash-light. When I developed I first used a 20-grain soda solution, then the regulation pyro, and finished in an old pyro developer, resulting in fine, vigorous negatives, plenty of detail, and a scarcely perceptible halation around the windows, without harshness in the high-lights. The

parties on seeing the proofs decided to have 8 x 10; therefore I made another trip, and took along some non-halation plates, or their equivalent. I increased the time of exposure, of course, and, with the most careful and judicious handling, got unsatisfactory results, showing a great deal of halation around the windows. The time of exposure was correct, and I thought perhaps the plates might have been labelled wrong. As I had plenty of detail, I extended the development, then reduced the negatives with a ferricyanide and hypo solution until I began encroaching upon the half-tones and detail; washed thoroughly, and strengthened up to printing density with bichloride of mercury and sulphite of soda, the result being very good negatives, with but little halation, though a trifle more than was in the 5 x 8 plates. I doubt in my own mind if as good or better results could have been accomplished by any other of the numerous developers. For panoramic work it cannot be surpassed; and as for myself, I shall stay with pyro, stains and all.

THE PYRO-METOL DEVELOPER.

BY JEX BARDWELL.

SOME weeks ago I had a call to do a little street photography. The day was very far from being suitable for snap-shot work, but it had to be done then or not at all. It had been raining, so that the atmosphere was clear, but there was very little light. The lens I used will work at *f*/4, but in order to get better distance I used the stop *f*/8. It was with some fear that I entered my dark-room to develop the plates, but I had the satisfaction of having them turn out all right. I attribute my success to a modified pyro or pyro-metol developer which I have employed for some time past with general satisfaction. Those who have a little time to spare, and who are fond of trying a new thing once in awhile, will possibly find these few notes of interest. In the following formula No. 1 is for use when it is desired to produce a strong negative; No. 2 is a milder form of the same; No. 3 is the usual alkali solution:

No. 1.

Water	8 ounces.
Metol	18 grains.
Sulphite of Sodium (Cryst.)	360 "
Pyro	22 "
Bromide of Potassium	4 "
Citric Acid	24 "

No. 2.

Water	8 ounces.
Metol	18 grains.
Sulphite of Sodium (Cryst.)	360 "
Pyro	22 "

No. 3.

Water	8 ounces.
Carbonate of Potassium	1 ounce.

For use, take one part of No. 1 (or No. 2 according to the kind of negative desired) to one part of No. 3, and add one part of water.

I find that the above quantity of sulphite gives a slight tint which produces an excellent printing negative, but if you desire a gray negative you can get it by increasing the quantity of sulphite. I think those who try it will like it. I have had better results with this formula, both under skylight and landscape, than with any developer I have ever used. You can modify the printing qualities of your negative to almost any extent by increasing or decreasing the quantity of sulphite.

THE latest graphic method is "onography," by which onyx is used in place of a lithographic stone and chemically engraved for the production of cuts and illustrations.

PROGRESS.

BY E. M. ESTABROOKE,
Elizabeth, N. J.

DURING the years that I was travelling as a dry-plate demonstrator I now and again encountered a photographer who still held to the collodion process as being good enough for him. More frequently I fell in with the man who made his own dry-plates. The numbers of such have, however, become so small that neither the one nor the other is to be considered as other than self-immolators under the wheels of progress, and so they pass into oblivion. The wonder is that they should have imitators in any branch of our profession or business; but they have, in the person of the man who thinks that albumen paper, as we have known it for the past, is still up to date and "good enough for him." This kind is also fast falling into the rear, at this late date striving desperately to "catch up with the procession." Let us give all of these credit for sincerity; but, nevertheless, they will become victims to the "Juggernaut" of progress, and we shall hear the last of them before many days.

Now we have the latest manifestation of progressive ideas in the matt-surface fad, which is no fad, however, but real evidence of the improvement and higher culture of public taste. In my opinion it behooves all who wish to keep up to the "band wagon" to get into the procession as soon as may be.

Platinum, carbon, and the silver matt will soon "rule the roost," and thus will be recorded the third great step in advance made by photographic processes within the last quarter of a century.

Truly this is progress, and those of us who may see the end of another quarter of a century will probably see wonderful things which we have not heretofore even imagined.

NEWS AND NOTES.

A VIENNA firm has introduced a special form of incandescent burner applicable to petroleum and kerosene lamps. It consists of a platinum wire gauze mantle of extremely fine mesh suspended over the wick by means of a wire attachment. The interior of the burner is ingeniously devised to permit the admission of air, which, combining with the vaporized kerosene, ignites the platinum wire hood, and produces an intense white light equal to that given by fifty candles, but of far greater photographic quality. This invention should be of greater utility to the photographer for portraiture at night, copying and dark-room work, also for interiors. It is, of course, much more economical than either gas or electric light, the quantity of oil consumed in twenty-four hours by one lamp being said to be one quart. These burners are being supplied separately for attachment to any lamp, the price in Vienna being about $3.

PORTRAITURE by acetylene light is spoken of as successful in the pages of a British contemporary. The details of manipulation are not given, but the pictures are said to be indistinguishable from those taken under the skylight, with a good range of tones, without excessive shadows or flatness.

THE London *Graphic* announces a second amateur photographic competition, with three prizes of $100, $50, and $25. Prints

must be received in London before January 15th, and no competitor is permitted to send more than six examples of his work. The subjects may be landscapes, figures, animals, or architecture. Rejected photographs will be returned if stamps are sent for this purpose. All pictures chosen for publication, other than the prize photographs, will be paid for at the rate of $5 each. Over fifteen thousand pictures were sent in for the first *Graphic* competition.

A COMPLETE radiograph of the human body, measuring 6 feet 6 inches, has been obtained by Professor Zehnder, of Zurich, the inventor of a new Crookes tube, capable of working at a greater distance from the subject than those formerly used, and hence producing much sharper pictures.

MESSRS. LUMIÈRE BROS. have introduced a new orthochromatic plate, Series B, specially sensitized for yellow and red. These plates are said to possess certain advantages for radiography. At present Messrs. Lumière's specialties, including tribasic phosphate of sodium, cannot be had in this country.

NOT content with the magnificent shows of the Royal Photographic Society and the Salon, the London Camera Club recently held an exhibition of portraiture, comprising one hundred and fifty selected examples of work by the most prominent photographers, amateur and professional. The exhibition possessed no little historical interest, embracing, as it did, specimens of all the various styles of portraiture from the daguerreotype and collodion positive to the latest Hollyer and Craig Annan vogue. The Taber bas-relief portraits shown attracted much attention, and this effective specialty seems to be warmly admired on "the other side."

A PENNSYLVANIA subscriber, interested in the discussion concerning albumen and other chloride print-out papers, expresses the opinion that if a good ready sensitized albumen paper was introduced, in cut sizes, ready for use without fuming, etc., it would capture the market. It might, and it might not; but it is certain, as he observes, that the American photographer will never return to the old style of albumen paper printing, with all its messy and vexatious preparations and manipulations. An albumen paper, in cut sizes, sensitized and ready for use, has been placed upon the English market. It requires only a very brief exposure, and is then developed by a simple method. The prints are said to be bold, clean, and fully equal to those obtained by printing-out and toning.

SODIUM tribasic phosphate, a salt used in Europe during the past year or two, but unknown as yet in this country, is strongly recommended as a substitute for the ordinary alkalies used in development. A formula suggested is—

No. 1.	
Water	80 parts.
Sodium Sulphite	8 "
Hydroquinone	1 part.
No. 2.	
Water	25 parts.
Sodium Tribasic Phosphate	4 "

For use, mix in equal parts.

The action of the salt is said to be due to the absorption of carbonic acid from the air and its consequent dissociation into sodium carbonate and phosphate.

IT is rumored that the Camera Club of this city will hold an international exhibition during the spring of 1897. We do not know what foundation this rumor has in fact, but it is certainly time our American photographic societies should bestir themselves toward an exhibition representative of the present condition of amateur photography.

EDITOR'S TABLE.

1897.—Renewing subscribers and others will be glad to learn that many valuable novelties of practical value and beauty are being prepared for our next volume.

If you will hold with us during 1897 you will receive more than an abundance in return. We do not mean to be equalled or very nearly approached in the production of a practical and beautiful PHOTOGRAPHIC MAGAZINE.

Practical articles, helpful studies, descriptions of studios and appliances from the very best workers are already in hand, and many such are arranged for, relating to studio work, landscaping, and specialty photography of all classes. Mr. F. G. Schumacher will probably lead in January with a fine study on "Velox"—"The Queen of the Fiesta." Messrs. J. Ed. Rösch & Bro., Stein, Dozer & McClain, Falk, the Sarony Co., Rockwood, Morrison, Kupper, and a long list of others will follow, and matters unusual will be presented in many unusual and attractive forms.

If you win the prizes for new subscribers we shall rejoice.

FORTY-EIGHT PHOTOGRAPHIC STUDIES by FALK or SCHUMACHER for $1.00, and more sets to follow. Everyone can get into right posing in 1897 at little cost.

A PAINFUL ACCIDENT (from a fall) has for some time rendered Mrs. JEX BARDWELL entirely disabled, but at last accounts she was improving, we are glad to say.

MR. FRANK PALEN, Caledonia, Minn., has favored us with a number of landscapes of very superior quality. Two of "Lake Como," 8 by 10 size, attract us particularly. Careful choice of subject and time, to say nothing of their beauty, makes them very fine. It is refreshing to see such results.

A NEW HEADQUARTERS for the productions of the TABER BAS RELIEF CO. has been established at the stores of Mr. G. GENNERT, 24 and 26 East Thirteenth Street, New York. All business will be conducted through the new agency.

Infringers of the TABER patents are already abroad, and care should be taken by the craft not to "purchase a lawsuit." In presenting a new photograph to patrons, care should be taken to offer the genuine and the best, and to get a good price for it, instead of encouraging and offering cheap imitations. Deal with a reputable house, then you are guaranteed and protected.

The Inland Printer is perhaps *the only trade journal which sustains a thoroughly practical character with great artistic beauty.* So says the editor or publisher of our valued coworker, and he receives our MAGAZINE, too. Queer.

GOOD WORDS come good at all times, and they do seem to come at all times to this MAGAZINE.

A large supply is in hand now from renewing subscribers. They always help, and the publication of a few now may encourage some who see this and who are not yet quite decided as to what magazine to take next year; so here are some few opinions:

"Your last two issues have been an inspiration to me. I tried to get along without it for a short time, seeing only my brother's copy, but found it like kissing a girl in the dark—you may not be *sure* it's the right girl. And so with the MAGAZINE, the photographer may think he is doing very well, but is not quite sure it is the *best* he can do, or that it is quite 'up to date,' as it were. Your MAGAZINE is like a search-light throwing its rays into every corner of the land and showing what the world is doing in photography.

"Long may it flourish.

"M. M. MUDGE, Chattanooga, Tenn."

"I am proud to say I can point to your MAGAZINE with much pride as one of the best mediums of my advancement in photography.

"L. F. JANSEN, Buffalo, N. Y."

"John Burnet and *Quarter Century* are my chart and compass. Without them is like groping in the dark. I like all your books exceedingly well. I am sorry that I couldn't have the benefit of them before. On every topic they answer the question right and in the shortest possible language, easily understood. *Photographics* is the best hand-book on photography I ever read. I will include the *Cyclopædia*, although, of course, I have not had time to look it all over, since I just purchased it; but a glance shows the usefulness of it to the earnest photographer.

"L. V. KUPPER, Edinboro, Pa."

Many photographers have subscribed for our MAGAZINE for over thirty years.

"CLIMAX PLATES give perfect negatives," runs a popular advertising phrase. It is a true statement. During the past week or two we have seen negatives made on the new Climax plates, some developed with glycin, others with pyro, and others with metol. These negatives were of remarkable quality, of extremely fine and uniform grain, and showed a full range of tones from high-lights to shadows. The new "Climax" plates are manufactured by the LOVELL DRY PLATE CO., Portland, Me. E. & H. T. ANTHONY & CO., New York, trade agents.

A GRAND FAIR, with multitudinous attractions and novel features, will be held in the Madison Square Garden, New York, December 15th to 28th. The net profits of this undertaking are to be devoted solely to the completion of the Commercial Travellers' Home, now building at Binghamton, N. Y. Many prominent men in New York State are aiding Director-General A. B. DE FREECE in this philanthropic enterprise, which is worthy the support of the fraternity. How dull life would be without the "men on the road." The appeal for help is made to all business men, manufacturers, dealers and photographers.

THE PHOTO VASE, described in our last issue, as well as in the announcement on another page, has been received with great favor by the fraternity. All dealers can now supply the vase, or they may be had in any quantity from the manufacturers, Messrs. W. T. MURPHY & CO., 72 Murray Street, New York. The photo vase is a beautiful specialty, artistic and attractive. "It sells at sight," seems to be the general opinion.

Mosaics, 1897.—Those who desire to preserve their volumes of *Mosaics* as a record of progress or for reference should order the library edition, which is strongly bound in green cloth. Price, $1.00, postage free.

THE SIMPLEX RETOUCHING CABINET, introduced by G. GENNERT, 24 East Thirteenth Street, New York, has been greatly reduced in price. No. 1, formerly sold at $14, now sells at $10. No. 2 has been reduced from $9 to $7.

THREE HUNDRED DOLLARS IN PRIZES are offered by the *Sportsman's Magazine*, Potter Building, New York, for the best photographs submitted by amateurs. Those interested should send for circulars.

HIGGIN'S PHOTO MOUNTER, which we have often commended for excellence, seems to add to its popularity all over the world. We see it advertised in many of our foreign exchanges It is a good article, and has many peculiarly advantageous qualities. Try it.

THE PHOTOGRAPHERS' ASSOCIATION OF PENNSYLVANIA has issued a 36-page pamphlet devoted in part to the advertisements of dealers in photographic supplies, and to the constitution, by-laws, rules of competition, etc., of the Association. A full list of the prizes to be awarded at the forthcoming convention, which will be held at Harrisburg, Pa., January 26, 27, and 28, 1897, is given. All Pennsylvania photographers should secure a copy of this pamphlet, and give their support to the Association.

THE firm of C. P. GOERZ, manufacturers of the celebrated double anastigmat, has received from the German Emperor the national (gold) medal for industries in addition to the diploma of honor at the industrial exhibition recently held at Berlin.

MESSRS. CHAS. COOPER & CO., 194 Worth Street, New York, have just issued a new price-list of their chemical specialties, which they will be glad to send to any address on application.

A BEAUTIFUL PANORAMIC VIEW of the Schuylkill River at Philadelphia, taken from a point south of the Zoological Gardens, has been received from Mr. J. M. TOWNSEND, of that city. The view was made in sections upon Cramer "Crown" plates, and is a triumph.

Photo American, vol. vii. (November, 1895, to October, 1896). Edited by W. F. HAPGOOD. CHAS. H. LOEBER, publisher, New York. We acknowledge with thanks the receipt of this attractive volume from its publishers.

Beginning with the first number of the new volume the *Photo American* will be edited by E. W. NEWCOMB.

DEVELOPING X-RAYS.—In a recent letter Mr. ROBERT E. WESCOTT, of Lowell, Mass., says that he has had great success in developing radiographic negatives with the following simple developer:

Metol	2 grains.
Sulphite of Soda (cryst.) . .	24 "
Carbonate of Potash (gran.) .	24 "
Water	1 ounce.

A MAGNIFICENT DISSOLVING LANTERN FOR SALE.—A church syndicate having purchased a Hawkridge splendid *dissolving lantern*, in every way first-class ($200), finding less result from its use than expected, will sell it at a bargain. It is practically new, and in every way perfect and complete. A screen 20 x 20 accompanies it. It can be had for half above price (cost). Particulars, if required. Address "Wood," care of this office. We have used the lantern and know it to be as represented.

OUR SEPTEMBER NUMBER is out of print. In order to obtain copies to complete files we offer to send *Mosaics*, 1896, in exchange for clean, perfect copies of the September, 1896, number of this MAGAZINE, received before the end of the year.

AN exhibition of "members' work" will be held by the Photographic Society of Philadelphia in January next.

Shakespeare's Town and Times. The price of this beautiful work by Mr. and Mrs. H. SNOWDEN WARD, of London, reviewed in a recent issue of this MAGAZINE, should have been stated as $3, not $2.50.

THE PHOTOGRAVURE AND COLOR CO., 241 West Twenty-third Street, New York, which made the photogravure copies of Jacquet's painting for this number of the MAGAZINE, is a new corporation formed to carry on the business of the NEW YORK PHOTOGRAVURE CO. Mr. ERNEST EDWARDS is the President and guiding spirit of the company. All branches of art reproduction are to be undertaken, the specialties of the new firm being photogravure, photo-gelatine, and three color-gelatine work.

THE SPRINGFIELD (MASS.) CAMERA CLUB will hold its seventh annual print exhibition at Memorial Hall, Springfield, December 7 and 8, 1896.

It is proposed to have this exhibition especially characterized by the high quality of the work shown, and to that end all the leading amateur and professional photographers of the United States and Canada have been asked to exhibit. One prominent feature will be a "Gallery of American Beauties," composed entirely of photographs of young women. Already about one hundred professionals—many from the South and far West—have promised prints for this gallery. The professional photographers of Springfield are preparing extra fine exhibits. Each professional is allowed a space two feet square.

The majority of the members of the club will send in one or more prints, and the amateurs generally seem to take quite an interest in the matter. The club will offer no prizes, nor will an admission fee be charged.

A handsome souvenir catalogue containing half-tone reproductions of some of the prints exhibited will be issued.

OUR PREMIUMS.—Referring to the offer of *premiums* made on page 525 of our last issue, we desire to repeat it here and to add that instead of making a "grand offer" we have determined to treat individually and liberally with each generous person who exerts himself to obtain us subscribers. At the end of March, to the party sending us the largest number, we will present a magnificent copy (two volumes), highly illustrated, of the life of John Ruskin, or of Rembrandt, or of Michael Angelo, or their equivalent, giving a choice. Or, if an unprecedented list of new subscribers comes, we will treat in liberal proportion with the party sending it. Offer open until March 31st.

THE AMERICAN ARISTOTYPE CO. has recently placed upon the market gold and platinum solutions in small sizes under the name of "Amateur Gold" and "Amateur Platinum." The price of each is 50 cents per bottle, which enables the amateur photographer to obtain a complete outfit for toning aristo platino without too great an expenditure.

NAPOLEON SARONY DECEASED.—Suddenly and alone in his bed, some time during Sunday night, November 8th, NAPOLEON SARONY passed away. One more of the first and greatest masters in photography has departed, and another useful, lovable life is ended for us.

An extended sketch of Mr. SARONY, illustrated, will appear in our MAGAZINE early in the year—a memorial offering from a few of his coworkers and friends.

X-RAY APPARATUS.—Mr. JOHN CARBUTT announces himself ready to supply complete outfits for radiography. Set No. 2 is $164, and set No. 3 $213.50.

At a recent lecture before the Contemporary Club, Philadelphia, Prof. GOODSPEED's lecture on Radiography was illustrated by Mr. CARBUTT's lantern slides of x-ray subjects.

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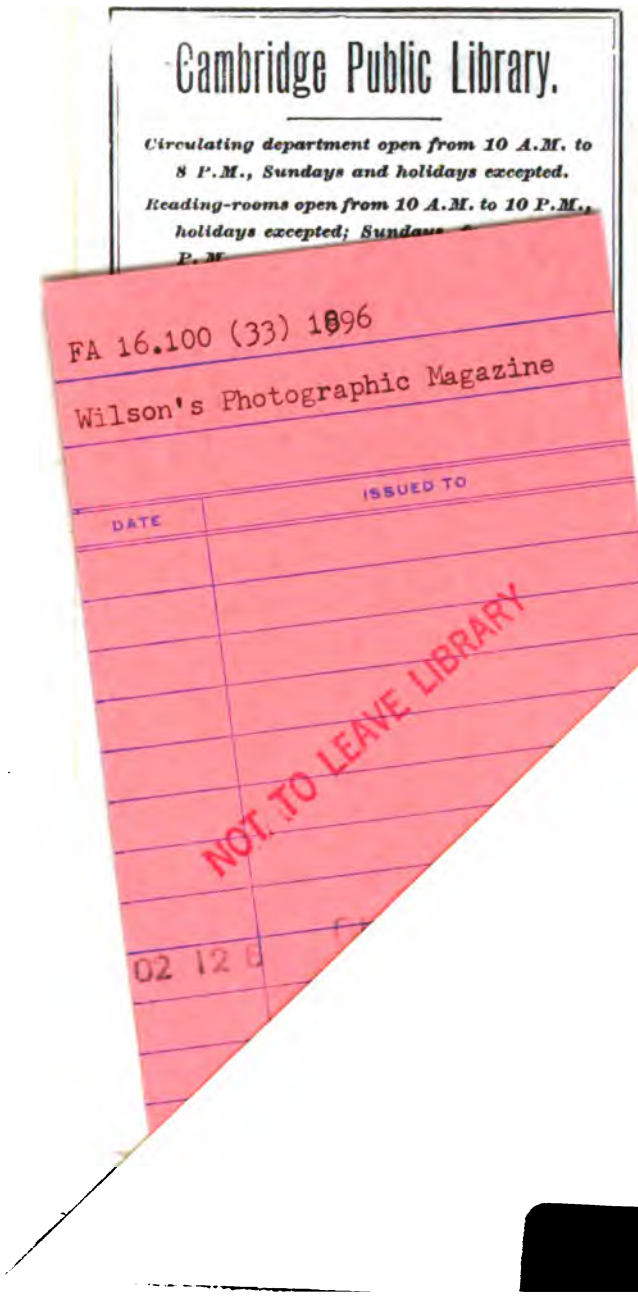
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